



AN INTEGRATED RANGELAND FIRE MANAGEMENT STRATEGY



Final Report to the Secretary of the Interior

May 2015

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THE DEPUTY SECRETARY OF THE INTERIOR
WASHINGTON

MAY 19 2015

Memorandum

To: Secretary

From: Deputy Secretary 

Subject: SO 3336 – The Final Report: *An Integrated Rangeland Fire Management Strategy*

Secretary Order 3336, *Rangeland Fire Prevention, Management and Restoration* (Order), established a Rangeland Fire Task Force (Task Force) with the charge to present a final report no later than May 1, 2015. As Chair of the Task Force, I am pleased to present for your review our report, entitled, “*SO 3336 - The Final Report: An Integrated Rangeland Fire Management Strategy.*”

The Strategy outlines activities for implementation prior to both the 2015 and 2016 Western fire seasons. It also outlines longer-term actions to implement the policy and strategy set forth in the Order, including the continued implementation of approved actions associated with the Strategy.

On behalf of the Task Force, I recommend you accept and approve these actions and direct the entities identified as the Responsible Parties for each action proceed with implementation.

Concur:



Sally Jewell

MAY 19 2015

Date

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Dear Reader,

A draft version of this report entitled, Draft Report, *A Set of Longer-Term Actions and Activities*, was available for public comment on April 2, 2015. As part of the outreach in developing this Strategy, the Department of the Interior held government-to-government tribal consultations and additional outreach to other stakeholders and partners. The actions identified in the Final Report, *An Integrated Rangeland Fire Management Strategy*, incorporates comments received from a wide range of stakeholders and partners and from the tribal consultation meetings. In an effort to enhance the coordination between related activities, reduce overlap, and efficiently utilize federal and other resources, some of the proposed actions in the April 2, 2015 Draft Report were consolidated, moved, or otherwise revised. As a result, the actions identified in the Final Report may differ from those identified in the April 2, 2015 Draft Report.

Sincerely,

The Rangeland Fire Task Force

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FUNDAMENTAL PRINCIPLES

Promote “All Hands, All Lands”
Management

Employ a Risk-Based Approach

Improve Application of Science and
Technology

Monitor and Adapt for Success

An Integrated Rangeland Fire Management Strategy (the Strategy) is intended to improve the efficiency and efficacy of actions to address rangeland fire, to better prevent and suppress rangeland fire, and improve efforts to restore fire-impacted landscapes. These activities involve targeted investments to enhance efforts to manage rangeland fire in specific portions of the Great Basin region, consistent with efforts of tribal, state, and other lands, and in keeping with the trust responsibilities to Indian tribes and other statutory obligations.

Essential to the success of the Strategy is improving efforts to work on a landscape-level and better employing science and technology to target areas of high priority for preventing, suppressing, and restoring fire-impacted landscapes using a risk-based approach. Through application of “All Hands, All Lands” management, increased collaboration among Federal, state, tribal, and local officials, natural resource managers, and the fire community can improve the efficiency and effectiveness of the overall rangeland fire management effort. A commitment to

monitoring changes in resource conditions to evaluate the effectiveness of different management strategies will improve learning and, through adaptive management, increase the success of the Strategy.

Better managing rangeland vegetation and reversing the spread of invasive, non-native grasses, such as cheatgrass, is critical to breaking the invasive species-fire cycle that has contributed to the increased frequency and intensity of rangeland fires. By planning projects at a landscape scale to reduce and control invasive species and rapidly restore lands impacted by fire to native vegetation, progress in protecting and restoring the iconic sagebrush-steppe ecosystem for the benefit of all can be achieved.

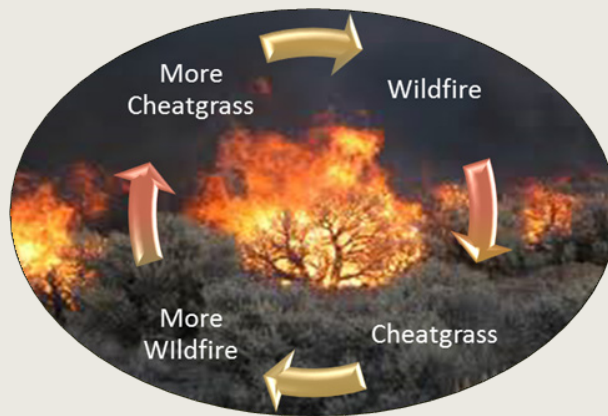
Introduction

The Department of the Interior (DOI) manages millions of acres of public land across the United States. These lands – and the many resources and services they provide – are for the benefit of current and future generations. The protection and recovery of imperiled species of plants and animals and the ecosystems upon which they depend is one of DOI’s management objectives across these lands.

In the Great Basin region – including portions of the states of Oregon, Idaho, Utah, Nevada, and California – a significant portion of the landscape administered by the Bureau of Land Management (BLM) is comprised of the sagebrush-steppe ecosystem. This ecosystem is one of the most imperiled in the United States.¹ The accelerated invasion of non-native annual grasses—in particular cheatgrass and medusahead rye—and the spread of pinyon-juniper into the sagebrush-steppe ecosystem, coupled with the effects of intensified drought and climate change, are creating conditions that are leading to larger, more intense rangeland fires across the Great Basin.

Cheatgrass (*Bromus tectorum*) is of particular concern. It is one of the most aggressive, non-native species that thrives in areas disturbed by wildfire and other land-use activities, and can dominate large areas across the landscape. The plant dries early in the summer and remains highly flammable throughout the fire season creating dangerous conditions on the ground. When fire strikes, firefighter safety is the paramount concern because escape routes and safety zones are difficult to establish due to rangeland fire’s rapid spread. With high temperatures, low relative humidity, and strong winds, rangeland fires can spread quickly and produce flame lengths that often prevent direct attack. A wind-driven rangeland fire in cheatgrass can easily burn thousands of acres in an hour, destroying homes, livelihoods, and habitat along the way. If left unchecked, cheatgrass often invades sagebrush habitat after rangeland fires, creating conditions for more frequent, intense fires in the future. For these reasons, the “fire-and-cheatgrass cycle” is a particularly difficult challenge for land managers.

Figure 1. Fire-Cheatgrass-Cycle



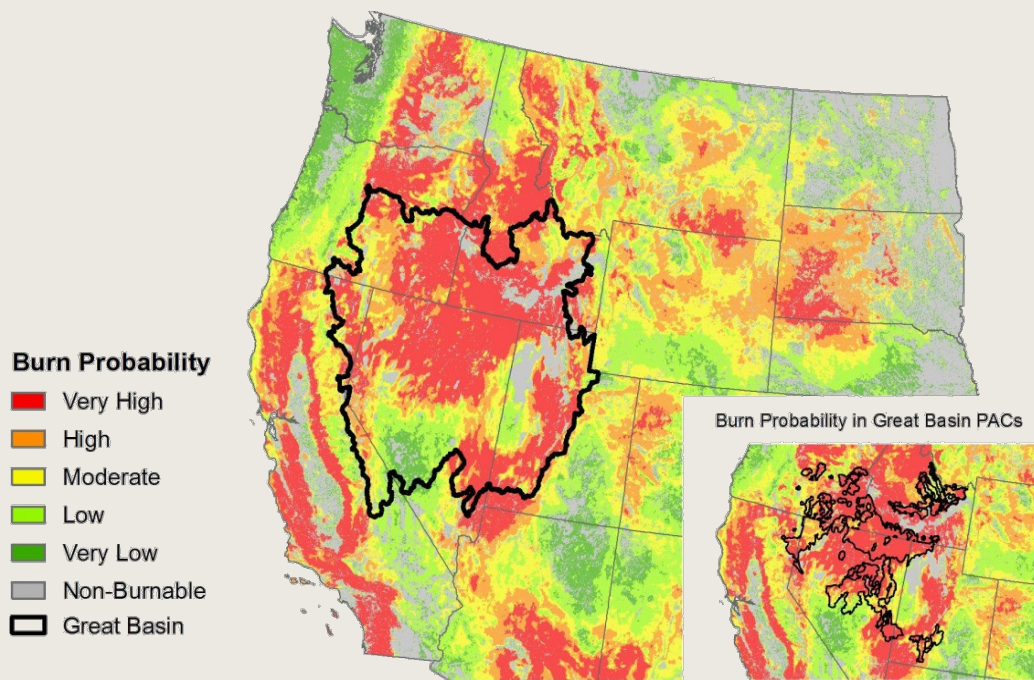
¹ Michael Wisdom, PNW Research Station, USDA Forest Service, La Grande, Oregon.

The increasing frequency and intensity of rangeland fires and conversion of sagebrush-steppe ecosystems to invasive annual grasses poses a major threat to ranchers, local communities, and others who live and work on the iconic sagebrush-steppe landscape and depend on these lands and resources to sustain their livelihoods and quality of life. This unique American landscape supports energy development, ranching, and outdoor recreation such as hunting, hiking, and camping. According to BLM, over 1,000 communities are near sage-grouse habitat, and many of the Nation’s treasured cultural and archaeological sites dot the sagebrush-steppe landscape.

More intense rangeland fires also pose an increased threat to the more than 350 species of birds, plants, and animals, including the greater sage-grouse that rely on this critically important ecosystem.

In 2010, the U.S. Fish and Wildlife Service (FWS) identified the invasion of non-native annual grasses and the loss of habitat, from the increased frequency and intensity of wildfire in the Great Basin, as the primary threat to the greater sage-grouse in that portion of its remaining range. The threat is particularly great in places identified as primary areas of conservation (PACs) where greater sage-grouse experts have indicated that protecting existing habitat is critical to the birds’ continued viability². The FWS is currently considering whether the species warrants protection under the Endangered Species Act.

Figure 2. Extent of the fire probability in Great Basin sagebrush-steppe habitat (most current information as of May 2015)



² U.S. Fish and Wildlife Service. 2013. Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final report. US Fish and Wildlife Service, Denver, Colorado, February 2013.

Nationally, annual average acres burned by wildfire rose from 2.9 million acres per year in the 1980s to 3.3 million in the 1990s, and then jumped to an average of 6.6 million acres burned per year from 2000 through 2009. Since the 1960's when accurate recordkeeping began, 8 of the 10 worst fire seasons, for national acres burned, have occurred since 2000. This trend is particularly problematic for the sagebrush-steppe ecosystem, where the pace of fire dwarfs the rate of recovery. During just 3 fire seasons from 2012 to 2014, nationally nearly 17 million acres burned, of which nearly 3.8 million were greater sage-grouse habitat in the western states.



The increased frequency and impact of rangeland fires necessitates an enhanced approach to address rangeland fire in the Great Basin and other sagebrush-steppe areas. The DOI, U.S. Department of Agriculture (USDA), tribes, other Federal, state, and local agencies, private industry, and various non-governmental organizations (NGOs) are working to meet the challenge to address rangeland fire more effectively. In particular, they are working together to better prevent fires, improve efforts to suppress fires when they occur, and to increase the effectiveness of efforts to restore landscapes impacted by fire. Reducing the frequency and intensity of rangeland fires is essential to protect the safety of communities in the sagebrush-steppe landscape and the livelihoods of their residents. In addition, a more effective strategy for addressing the threat of rangeland fire is critical to reducing the risk it poses to the continued viability of the greater sage-grouse, an important component of the overall strategy to conserve the species across its range.

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Departmental Response

Protecting, conserving, and restoring the health of the sagebrush-steppe ecosystem and, in particular, priority greater sage-grouse habitat, while maintaining safe and efficient operations, is a critical fire management priority for the Department.

Recognizing the conditions on the land and the need to protect and conserve the sagebrush-steppe ecosystem and greater sage-grouse habitat, DOI convened *The Next Steppe: Sage-Grouse and Rangeland Fire in the Great Basin Conference (Next Steppe Conference)*³ in November 2014. The *Next Steppe Conference* brought together leading scientists and researchers in restoration, fire, and invasive species ecology, and wildland fire management, key policymakers, land managers, natural resource managers, fire managers and firefighters, tribal, and community leaders, and other stakeholders to discuss how to address the escalating threat of rangeland fire. The *Next Steppe Conference* provided important information on the means to improve rangeland fire prevention, suppression, and the restoration of fire-impacted landscapes, and provided an additional and important source of knowledge, information, and expertise. The *Next Steppe Conference* was an opportunity to build upon the experiences and successes of addressing rangeland fire prevention, suppression, and restoration efforts to date, including the *National Cohesive Wildland Fire Management Strategy* (Cohesive Strategy) to inform an improved effort to reduce the threat of rangeland fire in the future.

Following the *Next Steppe Conference*, on January 5, 2015, DOI Secretary Jewell signed *Secretarial Order 3336 - Rangeland Fire Prevention, Management, and Restoration* (the Order). The Order emphasizes that rangeland fire management is a *critical priority* for “protecting, conserving, and restoring the health of the sagebrush-steppe ecosystem and, in particular, greater sage-grouse habitat, while maintaining safe and efficient operations.” The Order also emphasizes that the “allocation of fire resources and assets before, during, and after wildland fire incidents will reflect this priority.” The Order directed the creation of a Rangeland Fire Task Force to deliver a science-based comprehensive strategy to reduce the threat of large-scale rangeland fire to greater sage-grouse habitat and the sagebrush-steppe ecosystem, and set forth guiding principles and overarching expectations in Sections 5 and 6 of the Order, respectively. Elements of the Strategy include effective rangeland management, fire prevention, fire suppression, and restoration at a landscape-scale.

The Order directed the Task Force to develop and deliver an Implementation Plan, Initial Report, and Final Report to the Secretary. The *Implementation Plan*, completed and issued on February 1, 2015, outlined the work plan for implementing the Order. The Initial Report, *S.O. 3336 – The Initial Report: A Strategic Plan for Addressing Rangeland Fire Prevention, Management, and Restoration in 2015*, delivered to the Secretary on March 1, 2015, identified specific actions for

³ For more information on the Next Steppe Conference please go to: <http://www.nifc.gov/fireandsagegrouse/>

DOI, and its partners, to undertake prior to the onset of the 2015 Western fire season to improve the efficiency and effectiveness of rangeland fire management efforts ([see Appendix B](#)).

Building on the Initial Report, this Final Report, *An Integrated Rangeland Fire Management Strategy* outlines an approach for improving the efficiency and efficacy of actions to better prevent and suppress rangeland fire and to improve efforts to restore fire-impacted landscapes both including and beyond 2015 ([see Appendix B](#)). These activities involve targeted investments to enhance efforts to manage rangeland fire in specific portions of the Great Basin region, based on relative resilience and resistance to fire, consistent with efforts on tribal, state, and other lands, and in keeping with the trust responsibilities to Indian tribes and various statutory obligations. The actions in this Final Report primarily focus on the needs of the Great Basin, but the strategies developed (or lessons learned) will be applied range-wide where there is benefit to sagebrush-steppe habitat and greater sage-grouse.

The DOI held a listening session and two government-to-government tribal consultations and considered feedback from tribal leaders in developing the actions and activities included in the Strategy. In addition, DOI hosted two conference call sessions to answer questions on development of the Strategy and invited partners, stakeholders, and the public to submit formal public comment on the draft reports. Tribes, states, and partner agencies provided input to the task groups responsible for drafting the actions incorporated into the Strategy. Federal partner agencies include the USDA's Forest Service (USFS) and Natural Resources Conservation Service (NRCS), and the Department of Homeland Security's (DHS) U.S. Fire Administration (USFA).

Continued active engagement, involvement and input from states, tribes, stakeholders and other partners is critical as we move forward. The goals for engagement related to this Order are to (1) explain the Order, its genesis, and its implementation; (2) continue state, tribal and stakeholder involvement in implementing the Order; and (3) gather and consider state, tribal and stakeholder input during implementation into the future. Implementation of the Strategy will take place in continued consultation with tribes and cooperation and coordination with other Federal, state, local, private partners, and NGOs.



Photo Credit: BLM

The Strategy

The Strategy addresses all aspects of rangeland fire management, including improved fire prevention, enhanced fire suppression, and an increased emphasis on successful rangeland restoration. Key to the development and implementation of this Strategy are certain principles that are applicable to all aspects of rangeland fire and invasive plant species management; and, if properly applied, can significantly improve rangeland fire management and restoration efforts for sustainable sagebrush-steppe ecosystems.

Principles for Success

Work on a Landscape Scale

Protecting, conserving, and restoring healthy sagebrush-steppe ecosystems is a landscape-scale issue and requires a landscape-scale approach. A landscape-scale approach to management is one that emphasizes sustainability of entire ecosystems, integrates stakeholder collaboration, and addresses the present and possible future conditions of lands across ownerships. Since the sagebrush-steppe ecosystem crosses 11 western states and 2 Canadian Provinces, and has species such as the greater sage-grouse that range across this expansive area, it is important to conduct science and make management decisions at a larger scale. Use of this strategic, rather than opportunistic, approach will focus management actions that will result in more effective, cumulative efforts to maintain, restore, and sustain this important ecosystem.



The DOI agencies and their partners understand that short-term, isolated treatments alone do not result in long-term recovery or sustainability of a large landscape. Vegetation inventories, treatments, and preventative measures to reduce the risk of rangeland fire such as the appropriate use of herbicides, biological controls, biocides; prescribed fire, greenstripping, and fuel breaks; and the prioritization of efforts to restore fire-impacted landscapes, must be planned and conducted on a landscape-scale, across jurisdictional boundaries in collaboration with tribes, states and key stakeholders for lasting effectiveness. Thinking and planning holistically, and applying actions that take into consideration the needs of an entire ecosystem will result in a healthy sagebrush-steppe landscape that can support sustainable populations of greater sage-grouse.

Planning at a landscape-level can reduce the time and expense associated with developing management actions at multiple individual sites. Working at a landscape level can also facilitate and expedite National Environmental Policy Act (NEPA) analysis, permitting expeditious completion of individual projects that are associated with a larger landscape management plan by tiering to landscape-level environmental analysis. Time is of the essence in re-vegetating fire-scarred lands. For this reason, more efficient, timely, and strategic planning for restoration projects can reduce costs and expedite implementation of appropriate management measures to restore healthy landscapes.

Promote “All Hands, All Lands” Management

Just as wildfires know no boundaries, planning, projects, and collaborative work to address them must, with mutual agreement, cross ownership lines and jurisdictional boundaries to be effective. Embracing an “All-Hands, All-Lands” management approach and building on the goals of the Cohesive Strategy are essential to this concept. Further expansion of collaboration with other Federal, state, and local agencies, tribal governments, private industry, and NGOs to work smarter, leverage resources, and enhance effectiveness is vital to reducing the habitat lost improving the health of the sagebrush-steppe ecosystem and achieving social, economic, and ecological goals. Including tribes and state agencies in the identification of fuels (vegetation) management priorities and in aligning resources to leverage assets for fuels treatment can help further reduce fire risk.



An important “advance” in this regard is to bring together resource managers, biologists, and other scientists, and fire program leaders at all levels to identify ways in which they can help each other understand how to manage landscapes to reduce fuels and fire risk and improve restoration success of lands impacted by fire. For example, because reducing fuels – particularly the rapid spread of invasive species such as cheatgrass – is a

critical part of the strategy for reducing future rangeland fires and protecting important habitat, it is important that vegetation management and habitat restoration (not simply building firebreaks or applying prescribed fire) be an integral part of the solution.

Addressing improper grazing practices, where they occur, can reduce the likelihood of non-native annual grass invasion. However, grazing can also be a tool which, when properly used, can help manage fuels at critical times. Technical support and incentives for livestock producers to work with Federal and state partners to implement targeted fuel treatments would capitalize on their knowledge and could align essential resources. Similarly, technical assistance and incentives for livestock producers and grazing permittees accelerate and increase the success of efforts to restore fire-impacted lands to native grasses, forbs, and sagebrush and help prevent cheatgrass and other non-native invasive species from becoming established.

Partnerships make it easier to work across agency and other jurisdictional boundaries, not just to expand treatments, but also to leverage funding, experience, capability, and knowledge about best management practices. Partnerships must go beyond improvements in collaboration among Federal land and resource management agencies and must be inclusive. Collaborative efforts should include groups with an interest and expertise in rangeland fire prevention, suppression, and restoration. At a minimum, the following groups will be invited to collaborate: the Western Governors' Association; the Western Association of Fish and Wildlife Agencies; Great Basin Landscape Conservation Cooperative; Intermountain West Joint Venture; Great Basin Fire Science Exchange; state wildland fire, wildlife, and agricultural agencies; Indian tribes, including incorporation of traditional ecological knowledge; scientists and researchers; local/rural fire departments and Rangeland Fire Protection Associations (RFPAs); weed collaboratives; native seed production organizations; soil and water conservation districts; NGOs, and the conservation community.

Employ a Risk-Based Approach

Management resources are limited; some lands will recover naturally, but many require active restoration. Not every acre can be effectively treated to prevent rangeland fires, nor can every acre impacted by fire be restored. Setting priorities for prevention, suppression, and restoration is essential to increase the efficiency of operations and the efficacy of treatments.

For this reason, the Strategy relies, in part, on the Fire and Invasive Assessment Tool (FIAT)⁴ to assess the major threats to the sagebrush-steppe in order to conserve the greater sage-grouse and its habitat. “Resilience” and “resistance” to rangeland fire is the basis of FIAT. In simple terms, “resilience” is the ability of an area to recover from a disturbance, such as wildfire or drought. “Resistance” is the ability of an area of land to remain largely unchanged in the face of stress, disturbance, or invasive species. A resilient, resistant landscape will have integrity and be less susceptible to conversion to invasive annual grasses and landscape-scale, high-intensity fires and their effects.

⁴ The purpose of the FIAT is to identify priority habitat areas and management strategies to reduce the threats to greater sage-grouse resulting from impacts of invasive annual grasses, wildfires, and conifer expansion. The FIAT is a process that uses the best available information from many disciplines including ecology, biology, soils, fire science as part of a strategic framework. The cornerstone of the FIAT protocol is recent scientific research on resistance and resilience of Great Basin ecosystems (Chambers, et al., 2014). The final FIAT process report was completed in June 2014 by the Fire and Invasive Assessment Team.

Applying these key concepts to vegetation management will contribute to sage-grouse habitat conservation and restoration and will support fire operations by helping to limit the size and dangers associated with fast-moving fires.

The BLM and partners, designated specialists, and land managers completed a landscape assessment process using the FIAT (see [Appendix C](#)). The teams' efforts culminated in five detailed assessments focused on how BLM and its partners can work together to protect the greater sage-grouse, and in turn, improve the health of the sagebrush-steppe ecosystem. The FIAT is not a one-time assessment, rather developed to incorporate new data and complete a reassessment as needed to inform management actions. The use of risk-based, landscape-scale tools, such as the FIAT, will help prioritize treatment areas to reduce fire risk as well as set priorities to strategically-guide the allocation and pre-positioning of resources for fire suppression and better align funding sources for post-fire restoration efforts.

Improve the Application of Science and Technology



Resistance/Resilience

The Difference

In simple terms, “resilience” is the ability of an area to recover from a disturbance, such as wildfire or drought. “Resistance” is the ability of an area of land to deflect the same kind of disturbances.

Inherent in the Strategy is recognition that a strong science foundation is fundamental to successful rangeland fire prevention, suppression, and restoration. As demonstrated by the development and application of the FIAT to guide future sagebrush-steppe and greater sage-grouse conservation efforts, improved coordination of science and research and field experimentation, testing and application of the products of this work is essential.

This includes continual improvement in integrating natural resource and fire management objectives in order to coordinate efforts toward achieving common overall goals and objectives, and more effectively using science to help identify, conserve, and create resilient and resistant landscapes for the long term. Innovative practices, supported by emerging science, need to move forward, be tested, and rapidly deployed where safe and effective to do so.

In addition, better use of technology to communicate key information quickly and simply to resource managers and wildland firefighting personnel, such as the location of previously identified resistant and resilient landscapes and high priority habitats, can improve the efficacy of firefighting and restoration efforts. Fire crews at the *Next Steppe Conference* spoke of the value of having maps of these areas readily available to them in the field as they make critical decisions regarding firefighting strategy. Existing technology, with geospatial capability such as tablets and smart phones, if made available to resource managers, incident commanders, and fire management officers, could speed the translation of science into management actions quickly and effectively at low cost.

Monitor and Adapt for Success



SUCCESS MEANS

- Reducing acres of sagebrush lost to fire
- Reducing acres of sagebrush lost to invasive species
- Increasing acres of healthy sagebrush habitat to benefit human and natural communities

Established monitoring and metrics to evaluate the effectiveness of management actions must occur to determine the success of fire prevention, suppression, and restoration actions. Developing a monitoring and evaluation framework with protocols, standards, and capacity will provide compatible indicators, methods, and sample designs and ensure consistent data and data management, resulting in readily accessible and comparable data. Lessons learned from evaluations can be shared and inform changes to, (1) correct for ineffective management prescriptions, (2) respond to changes in resource conditions, (3) guide new science and research needs, and (4) address changes in management policy and direction. Monitoring and evaluation is an essential part of adaptive management and depends upon timely information, analysis, and learning.

Strategic application of new management techniques, improved use of risk analysis to set management priorities, and the

translation of science and research findings into tools for easy use on the ground to prioritize prevention, suppression, and restoration efforts can help improve the efficacy and efficiency of rangeland fire management. However, we cannot be certain that we are achieving desired outcomes without careful monitoring and evaluation of our management efforts. This is an essential part of learning and central to the application of the adaptive management approach we will apply to better manage the sagebrush-steppe ecosystem and conserve the greater sage-grouse.

The key principles, (1) work on a landscape-scale, (2) promote “All Hands, All Lands” management, (3) employ a risk-based approach, (4) improve the application of science and technology, and (5) monitor and adapt for success, are fundamental to our ability to successfully implement the Strategy.

Success is effectively reducing the sagebrush-steppe acres lost to fire and invasive species in a safe and efficient manner, while increasing the sagebrush-steppe acres restored to a healthy condition. If successful, we can increase the habitat restored to a healthy condition for the greater sage-grouse and other sagebrush-steppe dependent species and assure that all communities associated with the sagebrush-steppe ecosystem realize the benefits.

Fire Prevention, Suppression, and Restoration

Improve Fire Prevention: Manage Vegetation to Reduce Fire Risk

Invasive annual grasses, primarily cheatgrass, dominate about 25 million acres of the Great Basin. Cheatgrass contributes to the size and frequency of fires and directly threatens the habitat of the greater sage-grouse and other sagebrush-steppe dependent wildlife.

Vegetation management at this scale is complex and requires aggressive and targeted application of both proven techniques and the rapid investigation and implementation of new practices to control cheatgrass and mitigate habitat impacts from unwanted rangeland fire. Land managers need tools to reduce cheatgrass while simultaneously

restoring resilient sagebrush-steppe ecosystems that can withstand fire and resist re-invasion of cheatgrass or other invasive species. This work necessitates increased coordination and efficient use of NEPA procedures, partnerships, and funding, to increase capacity to treat more acres effectively. The goal is to protect, conserve, and restore greater sage-grouse habitat at a faster rate than it is lost to invasive species and rangeland fire. Effective strategies developed for early detection and rapid response (EDRR) and implemented in collaboration with a wide range of stakeholders, can help check the rapid expansion of invasive non-native species. Monitoring for success will continue to highlight what technique work most effectively and cost efficiently.

The expansion of native pinyon and juniper into sage-grouse habitat can also degrade the sagebrush-steppe ecosystem. Altered fire regimes allow pinyon and juniper to expand into long-established sagebrush-steppe ecosystems, where they out-compete native grass and understory vegetation and convert these areas to woodlands.

Vegetation treatments to reduce pinyon and juniper must consider the cultural importance of native vegetation to tribes, along with the need to restore sagebrush-steppe habitat. Generally, the treatments aim to remove younger trees that are expanding into sagebrush-steppe vegetation communities, while maintaining historic woodlands. Improved communication and partnership with tribes on management strategies to conserve traditional uses and recognize cultural values is essential to finding an appropriate balance to this issue.



Target Suppression: Protect Remaining Priority Habitat

Wildland fire managers already coordinate closely and leverage resources to apply a risk-based, integrated, collaborative fire response across jurisdictional boundaries. The Strategy will enhance efforts to identify important sagebrush-steppe habitat and inform fire response in these areas. Effective integrated response begins before the fire season starts, is communicated from leadership to the field, and is included in dispatch plans to ensure that the priority sagebrush-steppe habitat is recognized as a critical fire management priority when rangeland fires occur.

Improve Preparedness



Photo Credit: BLM

Where priority greater sage-grouse habitat exists, pre-positioning of firefighting assets to improve preparedness and suppression capability in the initial stages of a wildfire increases the chances of keeping fires small and limits loss of greater sage-grouse habitat. Pre-positioning firefighting assets from other parts of the country (as they are available) will bolster Great Basin rangeland firefighting resources during critical times of the year. For example, in the Southeast, Southwest, and Alaska

geographic areas, when fire season is winding down, the Great Basin is historically experiencing increased wildfire activity. Movement of agency rangeland firefighting assets from those areas to priority locations improves initial attack capability. In addition, established “draw-down levels” in the Great Basin will reduce the risk of a shortage of firefighting assets in greater sage-grouse habitat.

Increase Natural Resource and Fire Management Collaboration

Natural resource advisors and fire managers, at all levels, must coordinate and work collaboratively to identify priority habitats before and throughout the wildfire season to improve fire response and protection of priority sage-grouse habitat. The DOI is taking additional steps to help firefighters know where important greater sage-grouse habitat is located. Continuing in the 2015 fire season, when rangeland fires affect priority greater sage-grouse habitat, particularly in the FIAT identified areas, managers will dispatch resource advisors and provide maps depicting highest priority locations of greater sage-grouse habitat to crews working in key areas.

Enhance the Use of Veterans and Other Trained Resources

Employment of veterans is one of the highest priorities of DOI, and, in particular, for BLM. Active recruitment of returning veterans to the civilian workforce supplements and augments the existing veterans in the Federal wildland firefighting ranks, and increases the number of qualified firefighters available to respond. Increasing the training, coordination, and technical assistance for local/rural fire departments and RFPAs is essential to provide local protection and offers another way of extending suppression assets and ensuring that we have as many trained “boots on the ground” for initial attack as possible. Immediate response and successful initial attack are keys to keeping rangeland fires small, reducing risk to firefighters, and limiting the potential loss of important habitat. Proper training is a critical component to ensure firefighter safety and DOI will continue to invest in training and equipping local volunteers, RFPAs, and veterans’ crews to add to the overall suppression capability.

Improve Restoration Success

One of the primary challenges to restoring the health of the sagebrush-steppe ecosystem is achieving effective long-term restoration and post-fire recovery. Arid sagebrush-steppe rangelands face many environmental and site condition stresses exacerbated by drought, climate



change, and spread of invasive plants, leading to more frequent and catastrophic fires. While restoration can be successful at the small scale, a landscape level effort and adequate long-term funding is required to achieve effective and sustainable restoration of the sagebrush-steppe. As with vegetation management, to maximize success, restoration approached on a landscape scale in partnership with cooperators, is vital. This includes identification and efficient use of NEPA procedures and other environmental compliance processes, strong monitoring programs, metrics for success, incorporating science, and adaptive management. Landowners and land managers across the Great Basin are addressing challenges on a number of fronts with the intent of enhancing, promoting, and succeeding in rehabilitating and restoring the health of the sagebrush-steppe landscape and greater sage-grouse habitat, in

particular.

Link Short and Long-term Restoration Efforts

One key element of this effort is to use a risk-based approach in setting priorities for and implementing rangeland restoration strategies. When needed in the short-term, the Emergency

Stabilization (ES) and Burned Area Rehabilitation (BAR) programs provide funding to establish vegetation quickly on areas impacted by fire in order to reduce the potential of further resource damage. Currently, other agency land and resource management programs provide the funding, as available, for long-term restoration and recovery. Establishment of vegetation on these landscapes is essential for reducing habitat loss and conversion to cheatgrass and other invasive species.

Consistent with the policy articulated in the Order, the ES and BAR programs are undergoing an update to include restoration of rangelands, linking ES and BAR investments with overall restoration and recovery activities. Agency land and resource management programs that provide funding for long-term restoration and recovery must link to the ES and BAR programs to ensure that funding is adequate to address both short-term revegetation needs and the long-term goal of successful restoration of fire-impacted landscapes. Added flexibility in the use of short-term funds and a clear commitment to ensure that funding for long-term restoration is made available are essential if fire-impacted lands are to be restored to native vegetation in a timely manner.

Expand Use of Native Seeds and Seedlings

Native plant communities, especially those containing perennial native grasses and forbs essential to ecosystem integrity and diversity, provide ecosystem services that sustain wildlife, such as greater sage-grouse and native pollinators. Perennial grasses are the best competitors with invasive annual grasses and promote resilience. A reliable supply of genetically appropriate and locally adapted seed, as well as seeding technology and equipment, is needed for effective restoration of the sagebrush-steppe ecosystem. Through the Plant Conservation Alliance, more than 300 non-federal and 12 Federal agencies are currently working collaboratively to develop the *National Seed Strategy*⁵. When complete, the *National Seed Strategy* will guide the development, availability, and use of seed needed for timely and effective restoration. Maintaining an effective and efficient supply of seeds, seedlings, and other plant materials, with emphasis on enhancing the production and use of native seeds and seedlings, is at the core of a successful, landscape-scale post-fire restoration effort.

While the use of genetically-appropriate plant materials is strongly encouraged, the Strategy does not preclude the use of non-native plant materials in instances where and when they are appropriate. It is important to note that the Strategy recognizes that land managers in some agencies may plant non-native species to achieve site stabilization, wildfire breaks, or invasive plant control, but that the use of non-natives should be limited to transitional, non-invasive species, replaced by natives in subsequent ecological restoration or during natural successional processes.

⁵ The National Seed Strategy will include objectives and actions to meet four main goals: (1) Identify seed needs and ensure the reliable availability of genetically appropriate seed reserves; (2) Identify research needs and conduct research to provide genetically appropriate seed reserves and to improve technology for seed production and ecological restoration; (3) Develop tools that enable managers to make timely, informed seeding decisions for ecological restoration; and (4) Develop strategies for internal and external communication.

Establish a Coordinated Science Action Plan

In the past two years, Federal and state agencies have made considerable strides in identifying and prioritizing science needs for suppressing unwanted rangeland fire, controlling invasive plants, and restoring sagebrush-steppe. Examples include the USGS *Greater Sage-Grouse National Research Strategy*, WAFWA report, *Wildfire and Invasive Species in the West: Challenges that Hinder Current and Future Management and Protection of the Sagebrush-steppe Ecosystem—A Gap Report*, and USFS's draft *Sage-Grouse Conservation Science Strategy*.



Photo Credit: JR Roberts

NRCS SAGE-GROUSE INITIATIVE

One excellent demonstration of the benefit of the application of research and science to management in the context of our efforts to conserve the greater sage-grouse has been the success of the NRCS Sage-Grouse Initiative.

A review of these and other reports, and a multi-agency analysis of the gaps in our understanding of invasive species, wildland fire impacts, and management techniques will determine the highest priority science and research needs related to sagebrush-steppe ecosystems. This analysis will guide new actions aimed at filling the greatest knowledge gaps, define implementation needs, and direct science information delivery to practitioners on the ground. One excellent demonstration of the benefit of the application of research and science to management, in the context of our efforts to conserve the greater sage-grouse, has been the success of the *NRCS Sage-Grouse Initiative (SGI)*. Land managers, landowners, and other stakeholders rely on scientific information to improve their ability to reduce the threat of fires and restore rangeland habitats. Considerable research is underway to address rangeland health, habitat, and fire effects. Successful application of that science in the field is crucial to enhance and improve success across the landscape in fuels management, rehabilitation, and restoration efforts.

Long-term success of rangeland fire management efforts relies largely on creating and restoring landscapes that are resistant to invasive species and resilient to disturbance. Recent and emerging science is linking the resistance and resilience of sagebrush-steppe ecosystems to restoration and conservation strategies. Future research on new management options will enhance success while diminishing the costs of rangeland fire prevention, suppression, and restoration efforts.

Fast-paced research on restoring sagebrush-steppe habitat and controlling invasive plants is looking at what works, and what does not. For example, research regarding effective biocide controls of cheatgrass and studies on successfully establishing sagebrush-steppe are vital in addressing non-native invasive species control and successfully restoring or rehabilitating rangelands for the landowners and wildlife species that depend on them. Improving access to



applicable scientific information will facilitate and enhance efforts to protect, conserve, and restore important habitats and overall rangeland health. Creating a system that delivers the most current scientific information, interprets its use for management, provides a feedback loop to identify new research needs based on field results, and provides tools and services needed by managers will improve understanding and use of science. Mechanisms to accelerate registration and labelling of new, environmentally safe, and effective control agents would also help stem the conversion of native grasslands to cheatgrass and other invasive species and accelerate restoration of the health of sagebrush-steppe landscapes.

We can strengthen our efforts by linking existing Great Basin research and information groups, such as the Great Basin Research and Management Partnership, the Great Basin Landscape Conservation Cooperative, the Great Basin Fire Science Exchange, the Great Basin Native Plant Project, and the Sagebrush-Steppe Evaluation Project as well as universities and land grant colleges involved in similar research. Additionally, by increasing dissemination, interpretation, and application of new fire science and research through an improved system for science delivery, we will enhance use of science in day-to-day management decisions.

A science action plan aimed at expanding collaboration between science and management communities to discover, synthesize, interpret, and deliver new information to resource managers will improve the effectiveness of fire prevention, suppression, and restoration efforts.

Improve Management Efficiency and Effectiveness



Photo Credit: JR Roberts, Conservation Media

The successful implementation of the Strategy will require measures to improve management actions across agencies, jurisdictions, and programs. It will challenge resource managers, scientists and researchers, fire managers, and policy makers at the Federal, state, tribal, and local levels in government and among various private interests and stakeholders to collaborate, coordinate, and innovate in new ways.

Implementation, Coordination, and Accountability

Successful implementation of the Strategy and supporting actions requires a clear and sustained commitment to interdisciplinary and interagency collaboration, in all aspects of rangeland fire management – from prevention to suppression and restoration. Given that responsibility and authority for various aspects of fire management are shared among bureaus and agencies, organizations, and programs in the DOI, other Federal departments, tribes, and at regional, state, and local levels, a commitment to collaboration is essential.

Developing a dedicated, interagency, interdisciplinary executive team to lead the implementation and oversight of this Strategy, with adequate staff-level support, is an important first step. The benefit of this approach is that it could help breakdown the “silos” that traditionally inhibit the kind of partnership, innovation, and collaboration envisioned in the further development and implementation of this Strategy.

Geospatial Management Strategies

Identification of geospatially-explicit management strategies to limit the likelihood of habitat loss due to fire and targeted management strategies to improve resilience will further efforts to conserve important greater sage-grouse habitats. Geospatial tools and enhanced data sharing can provide a common framework, data, and terminology to support the implementation of the Strategy by helping to provide a common set of metrics to monitor resource conditions and the effectiveness of management actions consistent with an adaptive management paradigm.

Environmental Review and Compliance

Successful implementation of greater sage-grouse conservation at the landscape-scale requires timely and efficient environmental compliance procedures. Soon, land use and resource

management plans will be amended with supporting environmental reviews to reflect the goals of protecting, conserving, and restoring the health of the sagebrush-steppe ecosystem and, in particular, greater sage-grouse habitat. Programmatic and other streamlined environmental reviews to support vegetation management, restoration investments, and other activities can achieve additional efficiencies. By planning at a landscape-scale, environmental review and compliance can be more efficient and less costly and time consuming.

Resources and Funding



At present, resources (e.g., staffing and expertise) are shared between multiple agencies and organizations, including, but not limited, to DOI, USFS, and NRCS, and various state and local agencies. To fully implement the Strategy and supporting activities, will require a commitment of funding over multiple years, and coordination among the agencies and organizations involved in the Strategy, with an integrated approach to budget development

and implementation. A multi-year, integrated funding plan will help identify requirements, priorities, sources, and opportunities for shared and leveraged funding across agencies and disciplines.

The current approach to budgeting for wildland firefighting and restoration stymies efforts to implement a more efficient and effective strategy for the prevention and restoration work envisioned by this Strategy.

The President's fiscal year 2016 budget request renews the call for a new funding framework for wildfire suppression, similar to how the costs for other natural disasters are met. The initiative proposes base level funding of 70 percent of the 10-year average for suppression costs within the discretionary budget with the remaining identified suppression funding need provided through a budget cap adjustment. One percent of the most severe fires comprise 30 percent of the costs. This is a commonsense proposal, with bipartisan Congressional support, that helps ensure DOI and USDA do not take funding from other important program budgets, such as fire prevention, in order to fight the Nation's most catastrophic fires. Providing stability to the fire budget through the budget cap adjustment will enhance the long-term implementation of actions identified in this Strategy that would help to reduce the risk and harm of rangeland fires, as well as the associated costs.

Summary



The DOI, along with our partners, is prepared to respond to rangeland fire on important landscapes and to implement best-management practices to improve fire management and restoration efforts. While the strategy illustrates DOI's commitment to improving our efforts to protect and conserve important rangeland and sagebrush-steppe ecosystems and habitat, DOI remains firmly committed to the safety of firefighters and the public. Safety is

and will remain the number one fire management priority.

The DOI is committed to implementing the vision articulated in the Order to improve measures for the effective and efficient implementation of a landscape-scale, science-based, collaborative strategy that addresses the critical priority of rangeland fire in the West and reduces the risk it presents to the people, communities, and resource and cultural values of the region. This effort will depend on a coordinated and collaborative approach involving Federal departments and agencies, the states, tribes, local governments, research institutions and universities, and the many stakeholders with a stake in the health of the sagebrush-steppe ecosystem, the greater sage-grouse, and the hundreds of other species associated with this unique and iconic American landscape.

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Appendix A - A Set of Longer-Term Actions and Activities⁶

Cross-Cutting Action Items

Issue Description/Overview

These actions cut across multiple topical areas and support the overall implementation of the Strategy.

Action Item #1

Develop interagency capability and functionality to provide ongoing coordination, oversight, and accountability to ensure timely and appropriate implementation of the Strategy and supporting action items. Dedicated interagency executive and staff-level direction, coordination, and oversight will enhance integration and commitment to long-term, multi-year restoration investments by providing continuity over time as well as providing accountability for completion of the action items.

Responsibility:

Leads: Rangeland Fire Task Force

Target to Complete: Third Quarter 2015 and ongoing

Action Item #2

Develop and share a geospatial tool that highlights areas of concern and priority habitats in the Great Basin, including within priority greater sage-grouse habitat, particularly in areas identified using the FIAT. This tool will provide a common framework and common terminology to support the implementation of the Order.

Responsibility:

Co-Leads: USGS Associate Director for Core Science Systems

Support: BLM Assistant Director for Fire and Aviation, BLM Assistant Director for Renewable Resources and Planning, and DOI Geospatial Information Officer

Target to Complete: Third Quarter 2016

Action Item #3

Establish an interagency framework with protocols, standards, and capacity to conduct long and short-term monitoring at all appropriate scales, of the sagebrush-steppe ecosystem condition and the effectiveness of fire prevention, fire suppression, and habitat restoration. Use adaptive management to respond to changing conditions, guide new science, and adjust management practices and policy. The approach will focus on evaluating the effectiveness of

⁶ Quarters are defined as calendar year (e.g., first quarter ends March 31; second quarter ends June 30; third quarter ends September 30, and fourth quarter ends December 31 each year).

management actions, including fuels treatments, invasive species control, and restoration efforts, and the effects of these actions on habitat condition and trends. Resultant data and information informs resource management, at multiple scales, and supports the process of adaptive management.

Responsibility:

Co-Leads: USGS Associate Director for Ecosystems for development of monitoring framework; BLM Assistant Director for Renewable Resources and Planning for field implementation of monitoring

Support: USFS and other appropriate Federal and state agencies and tribes

Target to Complete: Fourth Quarter 2016

Action Item #4

Develop and implement efficient and appropriate National Environmental Policy Act (NEPA) and other environmental compliance processes. Develop approaches within existing law to implement NEPA, Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) compliance effectively, to shorten planning times for conducting analysis of projects at a landscape and site-specific scale, and lengthen usability times of environmental documents by incorporating adaptive management alternative analyses. Initiate and complete programmatic NEPA, ESA, and NHPA processes in the FIAT assessment areas for landscape-level fuels treatments and restoration.

Responsibility:

Co-Leads: Assistant Secretary – Policy, Management and Budget, Assistant Secretary – Land and Minerals Management

Support: BLM, FWS, BIA, NPS, and other supporting agencies

Target to Complete: Third Quarter 2015 to develop process, including schedule for implementation

Action Item #5

Develop multi-year resource and action plan to implement the Strategy and supporting actions and develop tools to facilitate integrated budget development and track implementation. A multi-year, integrated resource and action plan would identify requirements, priorities, sources, and opportunities for shared and leveraged funding across agencies and disciplines.

Responsibility:

Lead: Assistant Secretary – Policy, Management and Budget

Support: DOI Assistant Secretaries and Bureau Directors, coordinated with USDA

Target to Complete: Ongoing

Action Item #6

Enhance Funding Leverage and Collaboration with Partners. Leverage and expand current collaborative landscape efforts that integrate partnership interactions among Federal, tribal, state, and local governments, and private and NGO collaborators, including to identify (and make known) available Federal funding tools for work within and outside of Federal agencies to implement fuels treatments and restoration across jurisdictions on Federal, tribal, state, and private lands. Programs include but are not limited to: Stewardship Contracting, Wyden Amendment (Public Law 109-54, Section 434), Sikes Act (16 USC 670a-670o, 74 Stat. 1052), Service First (Public Law 106-291), Interagency Agreements, Good Neighbor Authority (16 U.S. Code § 2113a), DOI-Resilient Landscapes (RL) BLM's Healthy Lands program, USDA-Joint Chiefs' Initiative, USFS-Collaborative Forests Landscape Restoration Program and NRCS Sage-Grouse Initiative and other programs. In addition, as appropriated funds allow, the Department can use the following statutes to leverage improvement when working with tribes: The National Indian Forest Resources Management Act of 1990; 25 USC Chapter 33: the Indian Self-Determination and Education Assistance Act of 1975, as amended; 25 USC § 450 et seq.; and the Tribal Self-Governance Act of 1994, as amended, 25 USC §§ 458aa – 458hh.

Responsibility:

Lead: Assistant Secretary – Policy, Management, and Budget

Support: DOI Assistant Secretaries and Bureau Directors, coordinated with USDA

Target to Complete: Ongoing

Section 7(b) i. – Integrated Response Plans

Issue Description/Overview

Design and implement comprehensive, integrated fire response plans for the FIAT areas and other Great Basin areas that prioritize protection of low resilience landscapes most at-risk to detrimental impacts of fire and invasive species.

These actions are required to further a risk-based, cross-boundary approach to rangeland fire response planning and preparedness. Rangeland fire suppression priorities identified by the Order will be incorporated into revised Fire Management Plans (FMPs) and updated computer-aided dispatch (CAD) systems; availability of technology and technology transfer to wildland fire managers will be increased; and initial attack capacity and capability in the FIAT designated states (Idaho, Nevada, Oregon, California, and Utah) will be enhanced. These longer-term actions build on those identified in the Initial Report for implementation during 2015 (see [Appendix B](#)).

Action Item #1

Update Fire Management Plans to enhance protection of the sagebrush-steppe from wildfire.

Updated plans will include consideration of areas and suppression objectives identified in the FIAT process, as well as reflect land management objectives.

Responsibility:

Co-Leads: DOI Bureau Fire Executives

Support: Local Unit Fire Management Officers in BLM, NPS, BIA, and FWS

Target to Complete: Second Quarter 2016 for FIAT areas; Second Quarter 2017 outside FIAT areas

Action Item #2

Develop a national technology plan to increase the availability of technology and technology transfer to wildland fire managers. Develop a national plan, including implementation guidance, for improving access to real time maps, information, and data by local fire management organizations.

Responsibility:

Lead: Fire Management Board

Support: DOI and USFS Chief Information Officers (CIOs) and Bureau Assistant Directors for Information Resources (IR)

Target to Complete: Second Quarter 2016

Action Item #3

Strengthen rapid and long-term response capabilities and capacity in priority greater sage-grouse habitat, particularly in identified FIAT areas. Each bureau will conduct an assessment to identify the best mix of, and as needed, increases in firefighting assets including equipment such as dozers, engines and aircraft, and people, such as veteran fire crews. The first priority would be to increase initial attack capability, followed by increasing long-term capacity to address other rangeland fire management needs.

Responsibility:

Lead: DOI Bureau Fire Executives

Target to Complete: Second Quarter 2016

Action Item #4

Develop a long-term national plan for enhancing capability, capacity, and utilization of non-Federal wildland fire assets and organizations. This plan will include increasing the capability and capacity of tribal, state, and local agencies as well as rural or local fire departments and RFPAs, to enhance the ability of communities to provide local protection. This plan will also identify opportunities within existing and future Federal wildland fire management budgets to expand capacities and capabilities to support enhancing local efforts to reduce wildfire risk in priority sagebrush-steppe areas, with a goal to create fire-adapted communities and augment Federal protection responsibilities. Examples of expanded capabilities include mandatory training, equipment, and technical assistance.

Responsibility:

Co-Leads: Director, Office of Wildland Fire (OWF) and USFS Director, Fire and Aviation Management (FAM)

Support: DOI Bureau and USFS Fire Executives and USFA

Target to Complete: Second Quarter 2016

Section 7(b) ii. – Prioritization and Allocation of Resources

Issue Description/Overview

Provide clear direction on the prioritization and allocation of fire management resources and assets. These actions are required to improve utilization of fire management resources and assets in relation to rangeland fire, increase efficiency, and reduce costs. These actions build on those implemented during 2015, as identified in the Initial Report (see [Appendix B](#)).

Action Item #1

Identify and take actions to reduce administrative barriers that adversely affect the mobility of firefighting assets. Identify barriers (e.g., the lack of a travel credit card for fire crews limits the expeditious assignment and reassignment of fire personnel resources from one incident to another) and propose recommended solutions.

Responsibility:

Co-Leads: Director, OWF and Director, USFS (FAM)

Support: DOI Bureau Fire Executives, USFA; and National Association of State Foresters (NASF); DOI and USFS business and financial management offices

Target to Complete: Second Quarter 2016

Action Item #2

Enhance predictive services and fire intelligence capabilities to anticipate, plan for, and utilize firefighting resources and assets. Develop and enhance tools to determine and understand expected rangeland fire conditions (e.g., weather and fuels). Improve analytical ability to acquire, pre-position, and mobilize firefighting assets to effectively prepare for and respond to the increased threat from unwanted wildland fire, with priority given to rangeland areas.

Responsibility:

Co-Leads: Director, OWF and Director, USFS FAM

Support: Fire Management Board, National Weather Service, and non-federal partners, including states

Target to Complete: Second Quarter 2016, with additional enhancements in future years

Action Item #3

Engage international and Department of Defense (DOD) partners. Update and strengthen existing arrangements to utilize skills, assets, capabilities, and build capacity with international and DOD partners to supplement domestic Federal and non-federal wildland firefighting capabilities. Complete and implement updated international agreements with Mexico, Australia, and Canada. Review, update, and expand agreements and protocols with DOD to utilize a wide range of capabilities including information and intelligence gathering and analysis, ground and aviation assets, and personnel.

Responsibility:

Co-Leads: Director, OWF and Director, USFS FAM

Support: DOI International Affairs and USFS International Fire

Target to Complete:

- International Agreements: Fourth Quarter 2015
- DOD Agreements: Second Quarter 2016

Action Item #4

Review cooperative agreements between Federal, tribal, and state entities. Review, revise, and update, as necessary, the approach to cooperative wildland fire management agreements. Ensure the utility of those agreements to provide interagency wildland firefighting assets to address priorities including consideration of areas and suppression priorities identified in the FIAT process.

Responsibility:

Co-Leads: Director, OWF and Director, USFS FAM

Support: DOI Bureau Fire Executives; Chair, Forest Fire Protection Committee, NASF

Target to Complete: Second Quarter 2016

Action Item #5

Improve management of the radio spectrum. Develop mechanisms for better management and allocation of radio spectrum during peak use.

Responsibility:

Co-Leads: Director, OWF and Director, USFS FAM

Support: DOI and USFS CIOs, Bureau Assistant Directors for IR, DOI Bureau Fire Executives

Target to Complete: Second Quarter 2016

Action Item #6

Support efforts to identify responsibility for protecting all lands. Provide technical advice and other assistance to state and local governments to define responsibility for those lands that currently lack wildland fire protection.

Responsibility:

Co-Leads: Director, OWF and Director, USFS FAM

Support: Bureau state and regional Fire Management Officers

Target to Complete: Ongoing

Action Item #7

Develop mechanisms to capture and analyze data regarding allocation of firefighting assets and wildfire impacts to priority sagebrush-steppe ecosystems. Develop mechanisms to improve collection, analysis, and use of information to (1) allocate and prioritize firefighting resources and (2) understand the impacts of wildland fire on greater sage-grouse habitat and populations, in order to ensure appropriate prioritization and allocation of firefighting assets to mitigate these threats to critical natural resource values. This includes revisions to the existing Incident Status Summary (ICS 209) and the Incident Management Situation Report (SIT Report).

Responsibility:

Co-Leads: Director, OWF and Director, USFS FAM

Support: DOI Bureau and USFS Resource and Fire Executives, US Fire Administration, National Association of State Foresters, and Fire Management Board

Target to Complete: Second Quarter 2016

Section 7(b) iii. – Fuels

Issue Description/Overview

Improve targeting of fuels reduction opportunities and implementation. These actions are required to achieve efficiencies, promote collaboration, and eliminate existing barriers in fuels management actions. These actions support the need for increased capacity, staffing, and funding to continue to implement risk based projects at the local and landscape-scale that will ultimately lead to increased health of our Nation’s sagebrush-steppe ecosystem. These actions build on those implemented during 2015, as identified in the Initial Report (see also [Appendix B](#)).

The following collaborative efforts that address fuel treatments serve as the building blocks for many of the proposed actions identified below: *The National Cohesive Wildland Fire Management Strategy*; DOI’s Landscape Conservation Cooperatives [LCCs] and Resilient Landscapes [RL]; USFS’s Collaborative Forest Landscape Restoration Program [CFLRP]; BLM’s Healthy Lands and FIAT; and The Nature Conservancy’s Fire Learning Networks

[FLNs]). The 2014 passage of The Farm Bill also includes the Good Neighbor Authority that provides for restoration work to occur across Federal and state boundaries.

Action Item #1

Identify fuels management priorities. Identify priority landscapes and fuels management priorities within landscapes. Land management agencies will collaboratively develop consistent criteria across jurisdictions to prioritize landscapes, and expedite planning and implementation of fuel treatments, particularly in the FIAT assessment areas.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning and Assistant Director for Fire and Aviation

Support: USFS, NRCS, FWS, state agencies, counties, and private landowners

Target to Complete: Third Quarter 2015, continued improvements in subsequent years

Action Item #2

Develop common interagency metrics to validate fuels management activities in sagebrush-steppe. Metrics should be (1) consistent with those developed for monitoring and evaluation of greater sage-grouse land use plans and implementation of adaptive management strategy; (2) science-based (see *Joint Fire Science Program (JFSP) Fuel Treatment Science Plan*); and (3) incorporated into fuels management effectiveness monitoring to understand how fuel treatments are influencing ecosystem structure, function, and resilience.

Responsibility:

Lead: Director, OWF

Support: Federal land management agencies, USGS, JFSP, interested tribes, and non-federal partners (e.g., states, NGOs, etc.)

Target to Complete: First Quarter 2016

Action Item #3

Review and update current best management practices (BMPs) for rangeland fuels treatments. Review and update BMPs for rangeland fuels treatments to better integrate resistance and resilience concepts, ecological resilience science, and to identify a specific suite of preferred design alternatives for fuel treatments in sagebrush-steppe. The BMPs will specifically consider tribal and cultural values and provide flexibility to adjust practices, as needed, prior to fuels treatments (particularly in pinyon-juniper).

Responsibility:

Lead: BLM Assistant Director for Fire and Aviation

Support: Agency fuels specialists (DOI agencies, USFS, and NRCS fuels managers, wildlife, range/vegetation, research scientists with fuel treatment experience), scientific community

representatives, and non-federal partners (WAFWA, Western Governors' Association [WGA] representatives, other NGOs).

Target to Complete: Third Quarter 2016

Action Item #4

Coordinate the development of effective landscape-level fuels treatment plans.

Improvements are needed in: (1) developing better understanding of vegetation dynamics in non-forested systems, (2) developing better characterization of sagebrush-steppe and invasive annual grass fuels, treatment actions, effects, and associated changes in potential fire behavior, (3) linkages between fuels and habitat quality for key species, and (4) developing economic models (such as avoided cost) to describe the cost-effective return of investments. To ensure progress in this arena, develop new, integrated modeling systems, built off current systems or new ones.

- a. Initiate a pilot project to test existing tools and/or prototype versions of new tools. An initial pilot project will occur to test Interagency Fuels Treatment – Decision Support System (IFT-DSS).

Responsibility:

Co-Leads: BLM Assistant Director for Fire and Aviation and USFS – Wildland Fire Management Research, Development, and Application (WFMRD&A) initiate pilot project to test Interagency Fuels Treatment – Decision Support System (IFT-DSS)

Support: NRCS, NWCG Interagency Fuels Committee

Target to Complete: Results from initial pilot project by Fourth Quarter 2015; initiate additional pilot project(s) in the First Quarter 2016.

- b. Use results from pilot project(s) to make improvements in models and identify appropriate tools for developing strategies for future landscape-level fuel treatments in sagebrush-steppe ecosystems. Coordinate with other agencies and organizations that may develop and lead additional pilot projects.

Responsibility:

Co-Leads: BLM Assistant Director for Fire and Aviation and USFS (WFMRD&A)

Support: NRCS, DOI land management agencies, JFSP, and USFS - National Forest Systems (NFS); scientific and academic communities, NGOs

Target to Complete: Core capabilities developed by end of First Quarter 2016; review completed by end of Third Quarter 2016; and recommendations to the Fire Management Board by end of the First Quarter 2017.

Action Item #5

Implement a comprehensive knowledge transfer program to enhance the fuels management program's role in sagebrush-steppe management.

Develop an integrated fuels management knowledge transfer/training program applicable to interdisciplinary specialists. The program would include best management practices, and science-technology transfer components to increase probability for success.

Responsibility:

Co-Leads: BLM Assistant Director for Fire and Aviation and Assistant Director for Renewable Resources and Planning

Support: USFS and DOI Bureau Fire and Resource Executives working with JFSP and/or NGO/universities to develop training

Target to Complete: Develop training by the Second Quarter 2016 and deliver in 2017.

Action Item #6

Explore opportunities to provide support to livestock grazing permittees and private landowners to implement fuel treatment actions as part of strategic, landscape efforts to protect, conserve, and restore sagebrush-steppe habitats. The BLM (and other land management agencies) and NRCS will collaboratively identify priority landscapes where NRCS Sage-Grouse Initiative targets technical and financial assistance on private lands to complement public land fuel treatments to address threats effectively.

Responsibility:

Co-Leads: BLM Assistant Director for Renewable Resources and Planning and NRCS

Support: BLM Assistant Director for Fire and Aviation, USFS, Soil and Water Conservation Districts, private landowners, states, counties, and RFPAs

Target to Complete: Identify landscapes by the First Quarter 2016 and fund work for 2017.

Action Item #7

Explore incentives for livestock producers to implement targeted fuels and vegetation treatments.

In response to interest from private landowners and grazing permittees, work with livestock producers to implement fuels treatments on their lands and allotments. For example, development of Candidate Conservation Agreements with Assurances (CCAA) on private lands and the Candidate Conservation Agreements (CCA) for Federal lands that provides livestock grazers, where feasible, with the ability to implement actions (fuel treatments) to reduce threats to greater sage-grouse in sagebrush-steppe habitat voluntarily.

Responsibility:

Co-Leads: BLM Assistant Director for Renewable Resources and Planning and FWS Assistant Director for Ecological Services

Support: Private landowners, states, counties, and RFPAs

Target to Complete: Evaluate opportunities for livestock producer engagement in FIAT areas by First Quarter 2016. Expand assistance/incentives to producers and permittees in priority landscapes in 2016 – 2017.

Action Item #8

Use risk-based, landscape-scale approaches to identify and facilitate investments in fuels treatments in the Great Basin. Risk-based assessments will consider sagebrush-steppe values within priority greater sage-grouse habitat, particularly in FIAT identified areas, will incorporate adaptive management principles, and will be science-based.

- a. DOI will use a risk-based approach to allocate program funds to Bureaus.

Responsibility:

Lead: Director, OWF

Support: DOI Bureau Fire Executives

Target of Complete: Complete by the Fourth Quarter 2015 for 2016 and 2017 Bureau funding

- b. DOI agencies to apply a risk-based approach to allocate fuels management program funds to units.

Responsibility:

Lead: DOI Bureau Fire Executives

Target to Complete: By Fourth Quarter 2015 for 2016 and 2017 funding

Section 7b (iv). - Integrate Science into Project Design and Implementation

Issue Description/Overview

Use current and emerging traditional and scientific knowledge of ecological resistance and resilience in the development and implementation of fuels management and restoration actions. Use effective adaptive management to ensure that design practices and implementation strategies reflect both emerging scientific findings and knowledge gained from the analysis of past actions.

These actions outline the steps needed to integrate information known about the science of ecological resilience into habitat management plans, fine and coarse fuels management, invasive species control, and landscape restoration design in sage-steppe habitat and ensure the effective use of adaptive management.

Action Item #1

Develop a Conservation and Restoration Strategy for the sagebrush-steppe that considers emerging science, particularly ecological resistance, and resilience in habitat management, fuels treatment and restoration projects. The Conservation and Restoration Strategy (C&R

Strategy) will include a baseline assessment, conceptual models, and other components necessary to provide an overarching strategy for “on the ground” restoration actions in the sagebrush-steppe and provide a foundation for adaptive management and budget prioritization. The C&R Strategy will acknowledge risks to resource treatments and will incorporate geospatial tools and objectives.

The FIAT assessments, regional mitigation strategies, State Wildlife Action Plans, and other appropriately scaled conservation and restoration strategies are the building blocks in the development of the C&R Strategy. They should be used to create a more unified approach that identifies shared objectives and negotiates inconsistencies. The C&R Strategy should include consideration of multiple resource management objectives and change agents including, but not limited to, greater sage-grouse brood rearing habitat, riparian areas, cultural areas; and risks from climate change, fire, invasive species, development, and other change agents. The C&R Strategy will model possible options for implementation of how specific management activities could improve resilience for greater sage-grouse and other sagebrush obligate species at the site and landscape-scales.

Responsibility:

Co-Leads: BLM Assistant Director for Renewable Resources and Planning and Assistant Director Fire and Aviation

Support: Other DOI and USDA agencies, states, tribes, WAFWA, NGOs, and other partners in conservation science and development, and invite stakeholders to participate

Target to Complete: Fourth Quarter 2016

Action Item #2

Identify priority actions for conservation and restoration. The C&R Strategy will guide prioritization and implementation of multi-partner, multi-year restoration and conservation actions and activities, including plant materials development, monitoring, adaptive management, and science prioritization. The C&R Strategy will be coordinated with other ongoing prioritization efforts within the sagebrush-steppe and other elements of the Strategy required by Secretarial Order 3336 to identify priorities for action. These identified priorities will inform budget decisions in the DOI and DOI bureau programs that fund restoration, fuels reduction, invasive species management, habitat improvement, monitoring, and adaptive management. Additionally, these identified priorities may inform priorities for native plant materials development and science.

Responsibility:

Co-Leads: BLM Assistant Director for Renewable Resources and Planning and Assistant Director Fire and Aviation

Support: Other DOI and USDA bureaus, states, tribes, WAFWA, NGOs and other partners in conservation science and development, and invite stakeholders to participate

Target to Complete: Fourth Quarter 2016

Action Item #3

Incorporate traditional ecological knowledge into management practices. Review and consider indigenous peoples' historic fire management practices and the outcomes of those practices, particularly with regard to resilient ecosystems. Consult with appropriate tribal members to identify specific ecological changes due to current fire management practices and other factors, and to identify traditional ecological understandings of interest today. Work with the research community to investigate and improve the effectiveness of rangeland fire protection, conservation, and restoration treatments, incorporating traditional ecological knowledge, into the C&R Strategy. Develop measures of success for projects from multiple perspectives and knowledge systems. Define parameters of success from both western science and traditional ecological knowledge. Recognize contributions of tribal partners in final products, publications, and efforts to publicize projects.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: Other DOI and USDA bureaus, states, tribes, WAFWA, NGOs and other partners in conservation science and development, and invite stakeholders to participate

Target to Complete: Fourth Quarter 2016

Section 7(b) v. – Post-Fire Restoration

Issue Description/Overview

Review and update Emergency Stabilization and Burned Area Rehabilitation policies and programs to integrate with long-term restoration activities. These actions will address policy and program changes to existing DOI Emergency Stabilization (ES) and Burned Area Rehabilitation (BAR) policies to improve the allocation and utilization of funds to recognize sagebrush-steppe factors, to integrate ES and BAR funding with other bureau land and resource management funding and programs, to expedite funding, and to maximize success of restoration projects. These actions build on those identified for implementation during 2015, as identified in the Initial Report (see Appendix B). Since issuance of the Initial Report, an interagency team of ES/BAR and resource management program specialists developed proposals to revise, update, and integrate ES/BAR policies and programs and will present these proposals to interagency leadership for approval and implementation in the summer of 2015.

Action Item #1

Review, update, and resolve Emergency Stabilization (ES) and Burned Area Rehabilitation (BAR) policy, procedures, and allocation changes to meet the goals of the Order. Revise ES/BAR policies and program implementation to align with bureau land management and resource management programs and activities to promote long-term restoration and recovery, update prioritization criteria, and incorporate science to promote resistance and resilience.

Lead: Director, OWF

Support: DOI Bureau Fire and Resource Executives

Target to Complete: Third Quarter 2015

Action Item #2

Integrate ES, BAR, and other restoration programs to adhere to ecologically based desired conditions, and develop processes for long-term restoration commitment and maintenance of ES and BAR treatments.

Conduct an assessment to determine how to best integrate ES, BAR, and restoration activities to obtain a desired ecologically based conditions .and revise and update program handbooks and other documents as necessary.

Lead: Director, OWF

Support: DOI Bureau Fire and Resource Executives

Target: Second Quarter, 2016

Action Item #3

Conduct periodic reviews to test efficacy of ES and BAR programs. Conduct periodic reviews to evaluate and simplify processes in applying for, implementing and reporting on ES and BAR projects over time, including refining ES and BAR policies to align with best available ecological restoration science, while considering changes to timelines, funding, planning, prioritization criteria, and other factors.

Lead: Director, OWF

Support: DOI Bureau Fire and Resource Executives

Target to Complete: Third Quarter 2016

Section 7(b) vi. – Commit to Multi-year Investments in Restoration

Issue Description/Overview

Support long-term strategies for the restoration of sagebrush-steppe ecosystems, including consistent long-term monitoring protocols and adaptive management for restored areas.

These actions will organize existing restoration activities better, implement the Conservation and Restoration Strategy, remove administrative and policy barriers to supporting long-term strategies for restoration, and reduce challenges to coordinating with partners. The DOI's commitment to long-term strategies related to restoration, monitoring, and adaptive management would be more meaningful when managed within a larger context of commitment to restoration in the sagebrush-steppe ecosystem.

Action Item #1

Identify, document and map current investments in restoration, monitoring, and adaptive management.

Compile a list of activities and programs that fund restoration, monitoring and adaptive management investments within the sagebrush-steppe ecosystem. Map “hot spots” of restoration activity or investment to help identify trends and opportunities for greater efficiency and leveraging of funds.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: BLM Assistant Directors for Energy, Minerals, and Realty and Fire and Aviation; OWF, other DOI and USDA agencies, states, tribes, WAFWA, and partners in conservation and development.

Target to Complete: First Quarter 2016

Action Item #2

Identify and initiate actions to reduce administrative barriers to fulfilling multi-year commitments to restoration, monitoring, and adaptive management and to collaborating across landscapes.

Review internal DOI and bureau policies that hinder multi-year commitments to restoration, monitoring, and adaptive management, including existing policy that no-year funds be applied to restoration and managed at the bureau or program-level on a single-year basis. Propose and implement changes to policies and procedures that would facilitate multi-year plans for restoration, monitoring, and adaptive management, including those that would facilitate treatment implementation when environmental conditions are favorable, and those that facilitate collaborating across landscapes.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: BLM Assistant Directors for Energy, Minerals, and Realty and Fire and Aviation; OWF, other DOI bureaus, USDA agencies, states, tribes, WAFWA, and partners in conservation and development

Target to Complete: Second Quarter 2016

Action Item #3

Describe lessons learned from existing multi-year investment programs and recommend procedural changes for funding multi-year plans for restoration, monitoring, and adaptive management.

To identify shared objectives and project priorities, aggregate funds, and/or issue contracts (e.g., Utah’s Watershed Restoration Initiative), survey regional “brokers” or “coordinators.” Review DOI and other Federal agencies for programs that allow for some form of multi-year plan or that fund particular projects through their duration (e.g., Construction and Deferred Maintenance Projects). Report the lessons learned and recommendations.

Responsibility:

Co-Leads: BLM Assistant Director for Renewable Resources and Planning

Support: Other DOI Bureaus and USDA agencies; invite tribes, partners, and stakeholders to participate.

Target to Complete Dates: First Quarter 2016

Action Item #4:

Develop a community of practice for restoration, monitoring, and adaptive management in the sagebrush-steppe ecosystem. Facilitate and support a cross-jurisdictional consortium of agencies, organizations and partners dedicated to implementation of restoration, monitoring, and adaptive management activities leading to a healthy ecosystem.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: BLM Assistant Directors for Energy, Minerals, and Realty and Fire and Aviation; OWF, other DOI bureaus, USDA agencies, states, tribes, WAFWA, and partners in conservation and development

Target to Complete: Fourth Quarter 2016

Action Item #5:

Develop comprehensive policies and consistent funding to implement the Conservation and Restoration Strategy.

Develop a multi-partner, multi-year program of work to implement the C&R Strategy, including monitoring and adaptive management. Include plans to increase continuity of support for specific treatment areas or programs, e.g., Emergency Stabilization (ES) projects and invasive species treatments.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning and Assistant Director for Fire and Aviation

Support: BLM Assistant Director for Energy, Minerals, and Realty; OWF, other DOI bureaus, USDA agencies, states, tribes, WAFWA, and partners in conservation and development

Target to Complete: Fourth Quarter 2016

Section 7(b) vii. – Large-scale Activities to Remove Invasive Non-native Grasses

Issue Description/Overview

Implement large-scale experimental activities to remove cheatgrass and other invasive annual grasses through various tools.

These actions will result in large-scale activities to remove cheatgrass and other invasive annual grasses through various tools beginning in 2015 with full implementation in subsequent years. The goal of large-scale activities is the effective control and restoration of areas dominated by invasive, non-native annual grasses at a rate greater than the rate of the spread.

Action Item #1

Develop a framework for a national invasive species Early Detection and Rapid Response (EDRR) program.

This effort is in response to a directive in the President's Priority Agenda: *Enhancing the Climate Resilience of America's Natural Resources*. It will benefit agencies, states, tribes, and local entities working on EDRR. It will also provide recommendations to operationalize a national EDRR system. It will build on and aim to connect existing programs that identify potentially invasive species that could become abundant, conduct surveys to assess their extent, and take actions to limit their spread.

Responsibility:

Lead: DOI Invasive Species Coordinator

Support: BLM Assistant Director for Renewable Resources and Planning; FWS, NPS, USGS, USFS, NRCS, U.S. Department of Commerce (DOC), Environmental Protection Agency (EPA), and the National Invasive Species Council (NISC), WGA, state agencies, tribes, and NGOs.

Target to Complete: First Quarter 2016

Action Item #2

Conduct large-scale research and demonstration projects for control of cheatgrass and other invasive annual grasses to identify and advance effective strategies for preventing the spread of invasive species and support large-scale rangeland restoration. Researchers and managers locate and coordinate installation of long-term studies and subsequent monitoring to test the efficacy of large-scale application of integrated pest management programs that include chemical, mechanical, biological, newly registered biocides, and subsequent restoration practices. The program of work would identify suitable locations and process to solicit and review proposals.

Responsibility:

Co-Leads: BLM Assistant Director for Renewable Resources and Planning and Assistant Director for Fire and Aviation; and USGS Associate Director for Ecosystems

Support: FWS, BIA, NPS, USFS, NRCS, ARS, NGOs, tribes, and GBLCC

Target to Complete: Third Quarter 2016

Action Item #3

Complete the Vegetation Treatments Programmatic Environmental Impact Statement (PEIS).

The PEIS serves as the working document for the use of herbicides, chemical pesticides, and biocides on lands managed by BLM.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Target to Complete: Fourth Quarter 2016

Action Item #4

Develop a process to coordinate with the Animal and Plant Health Inspection Service (APHIS) and EPA on registration and labeling of new invasive annual grass biological and chemical control agents, as applicable. A structured and scheduled interaction with both APHIS and EPA would occur to discuss options associated with the management of invasive annual grasses. This would allow the agencies to keep current on the options available for consideration in the management of invasive annual grasses.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: USGS, USFS, APHIS, Agricultural Research Service (ARS), and EPA

Target to Complete: Fourth Quarter 2015

Action Item #5

Develop scalable and adaptive grazing management plans for reducing invasive annual grass and other fine fuels through targeted livestock grazing methods to diminish fire risk in priority greater sage-grouse areas to meet greater sage-grouse habitat goals. For example, during seasons with above-normal winter and spring rainfalls, utilize more targeted grazing methods to reduce fine fuels adjacent to priority habitats. Targeted grazing would be a cooperative engagement on both private and Federal lands.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: NRCS, FWS, USFS, ARS, states, counties, grazing permittees, and private landowners

Target to Complete: Agreements and standards in place for use by Third Quarter 2017

Section 7(b) viii. – Science and Research

Issue Description/Overview

Commit to multi-year investments in science and research.

Although a large body of scientific information exists for the sagebrush-steppe ecosystem, key gaps in knowledge remain. A multi-year plan for science and research will provide a basis for an integrated approach to identifying, prioritizing, and funding science and research activities necessary to support this Strategy. The plan will include approaches to ensure science and research is synthesized and accessible for use by managers and contributes to a comprehensive and landscape-level understanding of the sagebrush-steppe ecosystem. Focus areas for science will include:

- Resistance and resilience concepts and thresholds
- Effective and efficient landscape-scale restoration methods, considering regional and site-specific conditions, degree of degradation, major threats, and other factors
- Native and appropriate non-native seeds and plant materials
- Vegetation treatment techniques and effectiveness monitoring (e.g., fuels management, grazing, restoration, invasive annual grass control)
- Wildland fire impacts to native plant communities
- Implications of climate change, grazing and other land uses

Action Item #1

Develop and maintain an inventory of research commitments and capacity. In order to have a better understanding of ongoing research commitments and capacity, Federal agencies will maintain an annual, ongoing inventory of funded research beginning in FY 2015.

Responsibility:

Lead: DOI Science Advisor

Support: USGS, BLM, FWS, NPS, USFS, NRCS, ARS, JFSP, and GBLCC

Target to Complete: Third Quarter 2015 and ongoing

Action Item #2

Review existing research prioritization and strategy efforts to identify science needs for the Great Basin. In the past two years, Federal and state agencies made considerable strides in identifying and prioritizing science needs. These needs included (1) suppressing rangeland fire and controlling invasive plants, and (2) restoring sagebrush-steppe for the benefit of the greater sage-grouse and other priority wildlife species (e.g., USGS Greater Sage-Grouse National Research Strategy; USFS draft Sage-Grouse Conservation Science Strategy; JFSP Fuel Treatment Science Plan; and WAFWA reports: Fire and Fuels Management Contributions to Sage-Grouse

Conservation, Wildfire and Invasive Species in the West: Challenges that Hinder Current and Future Management and Protection of the Sagebrush-steppe Ecosystem—A Gap Report, and Invasive Plant Management and Greater Sage-grouse Conservation Report,). These completed and ongoing efforts will serve as the foundation to identify information gaps and extract science needs focused on fire and invasive plants.

Responsibility:

Lead: USGS Associate Director for Ecosystems

Support: Appropriate Federal agencies, JFSP, and GBLCC

Target to Complete: Fourth Quarter 2015

Action Item #3

Develop an actionable science plan of prioritized research needs. Building on the science needs in Action Item #2, develop a science action plan that prioritizes science needs, and identifies specific research efforts and associated costs and timelines.

Responsibility:

Co-Leads: USGS Associate Director for Ecosystems and USFS Deputy Chief for Research and Development

Support: Interagency team of appropriate Federal, state, tribal, academic, JFSP, and GBLCC representatives

Target to Complete: Third Quarter 2016

Action Item #4

Develop or identify a primary online science delivery system to allow easier access to published science products and other science information. The Great Basin Fire Science Exchange (GB Exchange) funded by the Joint Fire Science Program (JFSP), will be expanded to serve as the primary delivery system for science information for the management and science community. The GB Exchange will compile relevant scientific information, identify gaps in archived information, update and maintain existing websites, provide active links (e.g., GBLCC, GBRMP) to facilitate transfer of relevant scientific information, and develop science syntheses, tools, and services (e.g., training) to increase understanding and use of science in management decisions.

Responsibility:

Co-Leads: JFSP/GBLCC

Support: Other information providers, affected Federal and state agencies, tribes, and NGOs.

Target to Complete: Fourth Quarter 2015

Action Item #5

Identify available funding sources to support the action plan and implement new research in 2017 and beyond. As part of a comprehensive science action plan, DOI and bureaus will plan for

its implementation through a commitment to long-term strategies to support science priorities. These priorities include field-based testing and adaptive management and monitoring in ensuring the durability of the action plan.

Responsibility:

Lead: DOI Science Advisor

Support: Other Federal agencies, tribes, GBLCC, JFSP, and DOI Science Coordinator

Target to Complete: Third Quarter 2016 for budget plan development, re-occurring for out-year budget requests

Action Item #6

Conduct periodic reviews and updates of the science action plan. These reviews, conducted at least once every three years, will identify emerging science and determine if new technological innovations have arisen to support management priorities.

Responsibility:

Lead: USGS Associate Director for Ecosystems

Support: Interagency team of appropriate Federal, state, tribal, academic, JFSP, and GBLCC representatives

Target to Complete: Re-occurring with first update in 2019

Section 7(b) ix. – Seed Strategy

Issue Description/Overview

Develop a comprehensive strategy for acquisition, storage, and distribution of seeds and other plant materials. These actions will facilitate the development of a reliable supply of genetically appropriate and locally adapted seed, as well as seeding technology and equipment for successful and expanded effective restoration of the sagebrush-steppe ecosystem, including both native and non-native materials. These longer-term actions build on those identified for implementation during 2015, as identified in the Initial Report (see also Appendix B).

Action Item #1

Complete and issue the National Seed Strategy and Implementation Plan (2015 – 2020) to increase production, storage capacity, acquisition, and use of genetically appropriate and locally adapted seed.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: BIA, FWS, NPS, and USGS; USDA (USFS, NRCS, ARS, National Institute of Food and Agriculture [NIFA]); DOT Federal Highway Administration (FHWA); Smithsonian; and U.S. Botanical Garden

Target to Complete: Fourth Quarter 2015

Action Item #2

Implement the National Seed Strategy. This includes developing a budget and business plan to accomplish the strategy, providing training for managers when making decisions about the selection of genetically appropriate plant materials and technologies for vegetation restoration, propagation, and conservation of culturally important (first food) species, establish pilot training/demonstration projects and solicit scientific research as needed.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning in coordination with the Federal Native Plant Conservation Committee of the Plant Conservation Alliance

Support: BIA, FWS, NPS, and USGS; USDA (USFS, NRCS, ARS, NIFA); DOT FHWA; Smithsonian; U.S. Botanical Garden; and private entities

Target to Complete: Fourth Quarter 2016

Action Item #3

Increase the availability of native seed and plant materials by ensuring the collection, production, storage, and distribution of commercial seed for long-term rangeland conservation in collaboration with private partners. Collect native seed from across the distribution of the species for use in developing commercial seed and for long-term seed banking to ensure conservation of germplasm to promote climate resilience and long-term rangeland health.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: BIA, FWS, NPS, and USGS; USDA (USFS, NRCS, ARS, NIFA); DOT FHWA; Smithsonian; U.S. Botanical Garden; and private parties

Target to Complete: Fourth Quarter 2015 and ongoing

Action Item #4

Coordinate and collaborate across agencies on climate trend data as it relates to seeds. Understand the trends in climate, across the Western United States with a focus on sagebrush-steppe and pinyon-juniper ecosystems.

Responsibility:

Lead: USGS Associate Director for Climate Change and Land Use

Support: DOI and USDA agencies; state agencies, tribes, scientific and academic institutions, and NGOs

Target to Complete: Fourth Quarter 2015 and ongoing

Action Item #5

Increase the availability of native seed and plant materials for the Great Basin. Increase seed production and the grow-out of genetically appropriate native plant species for the restoration of the sagebrush-steppe ecosystem within the Great Basin, which will provide necessary structure and habitat, as well as dietary and other benefits for the greater sage-grouse.

Responsibility:

Lead: BLM Assistant Director for Renewable Resources and Planning

Support: BIA, FWS, NPS; USDA (USFS, NRCS, ARS, NIFA), and Great Basin Native Plant Project

Target to Complete: Fourth Quarter 2015 and ongoing

Action Item #6

Work with tribal and agency plant material specialists to improve efficiencies in rangeland seeding operations for restoration that includes Emergency Stabilization (ES) and Burned Area Rehabilitation (BAR). Agencies will work with rangeland plant material specialists and research to determine how to improve treatment efficiencies while improving monitoring and evaluation of treatment effectiveness, including the National Seed Strategy and Implementation Plan (2015-2020) once final, adaptive management, and engaging research.

Responsibility:

Lead: USGS Associate Director for Ecosystems on developing design and monitoring protocols; Implementation by DOI bureaus

Target to Complete: Fourth Quarter 2016

Action Item #7

Expand efforts to utilize native and non-native seed and vegetation plantings, where appropriate, to accelerate efforts to improve and restore post-fire rangeland health. The Post-Wildfire Handbook and other restoration guidance will incorporate concepts from the National Seed Strategy and Implementation Plan (2015-2020) when completed to identify opportunities to improve rangeland health.

Responsibility:

Lead: Interagency Burned Area Emergency Rehabilitation Team

Support: DOI Bureaus

Target to Complete: Second Quarter 2016

Appendix B – Table of Action Items⁷

A Total Set of Action Items

Initial Report Action Items (Short-Term)

INITIAL REPORT ACTION ITEMS (SHORT TERM)		
Action Item	Responsible Party/Parties	Target to Complete
Develop and share a geospatial tool that highlights areas of concern in the Great Basin and includes, at a minimum, focal, Fire and Invasives Assessment Tool (FIAT) and Priority Habitat Management areas.	BLM/USGS	May 1, 2015
7(b) i Integrated Response Plans		
#1. Increase the capabilities of rural/volunteer fire departments and RFPAs and enhance the development and use of veterans crews.	OWF/Agency Fire Leadership	June 1, 2015
#2. Ensure local, MAC groups function, and MAC plans are updated.	MAC groups working with local Federal wildland fire suppression agencies, tribes state fire suppression agencies, RFPAs, local fire departments, and other cooperators	May 1, 2015

⁷ Quarters are defined as calendar year (e.g., first quarter ends March 31; second quarter ends June 30; third quarter ends September 30, and fourth quarter ends December 31 each year).

INITIAL REPORT ACTION ITEMS (SHORT TERM)

Action Item	Responsible Party/Parties	Target to Complete
#3. Develop and implement minimum draw down level and step up plans to ensure availability of resources for protection in priority greater sage grouse habitat.	Federal local unit FMOs, in coordination with cooperators and reviewed by Federal state/regional FMOs	May 1, 2015
#4. Apply a coordinated risk based approach to wildfire response to assure initial attack response to priority areas.	Local MAC groups and unit FMOs, with review by Federal regional/state FMOs	May 1, 2015
#5. Develop a standardized set of briefing materials.	Geographic Area Coordinating Groups (GACGs) and local MACs	May 1, 2015
#6. Review/update local plans and agreements for consistency and currency to ensure initial attack response to priority greater sage grouse areas.	Federal local unit FMOs in coordination with cooperators and with review by Federal regional/state FMOs	May 15, 2015
#7. Develop supplemental guidance for use of “severity funding.”	DOI OWF in coordination with BLM	May 15, 2015
#8. Evaluate the effectiveness of action plans.	DOIOWF and Federal Agency Fire Directors	May 30, 2015
#9. Increase the availability of technology and technology transfer to fire management managers and suppression resources.	DOI national bureau leadership; DOI state/regional and local unit managers	June 1, 2015
#10. Improve the description and awareness of critical resource values threatened in various stages of the fire response process including large fire management.	NMAC Group, National Interagency Coordination Center, and Geographic Area Coordination Centers	June 1, 2015

INITIAL REPORT ACTION ITEMS (SHORT TERM)

Action Item	Responsible Party/Parties	Target to Complete
#11. Ensure compliance and evaluation of the implementation plan action items.	Local Unit FMO and Federal regional/ state FMOs	July 1, 2015
7(b) ii Prioritization and Allocation of Resources		
#1. Communication Plan	National Agency Fire Leadership (DOI Bureaus and USFS)	April 1, 2015
#2. Review and update the delegation of authority for the NMAC Group.	National agency leadership (DOI Bureaus/USFS/NASF)	May 1, 2015
#3. Issue national level “Leaders’ Intent.”	National agency leadership (DOI Bureaus/USFS/NASF)	May 1, 2015
#4. Engage GMAC Groups.	National agency leadership (DOI/USFS/NASF)	May 1, 2015
#5. Develop “Delegation of Authority” template for use by local line officers.	NMAC	May 1, 2015
#6. Engage line officers to communicate Leaders’ Intent and expectations.	Federal agency leadership (USFS/DOI Bureaus)	June 1, 2015

INITIAL REPORT ACTION ITEMS (SHORT TERM)

Action Item	Responsible Party/Parties	Target to Complete
7(b) v Post Fire Recovery		
#1. Review and update ES and BAR policy guidance to address rating and evaluation criteria, project design to promote the likelihood of treatment success, cost containment, monitoring, and continuity and transition to long term restoration activities and treatments.	I-BAER/OWF/IFEC/FEC/Federal Fire Policy Council	June 1, 2015
#2. Address acquisition, financial management, and other procedures that pose challenges to timely project implementation.	OWF/Bureau Designated Representatives	July 1, 2015
#3. Accelerate schedule approving BAR projects consistent with the guidelines established for the 2015 fire season.	IBAER/DOI Bureaus	June 1, 2015
#4. Identify non fire programs and activities that will fund treatments and restoration activities for the long term in conjunction with BAR and ES policy and program review to be conducted in 2015.	All Affected DOI Bureaus	June 1, 2015
#5. Identify requirements for NFPORS capabilities.	IBEAR/DOI Bureau	June 1, 2015

INITIAL REPORT ACTION ITEMS (SHORT TERM)

Action Item	Responsible Party/Parties	Target to Complete
7(b) ix Seed Strategy		
#1. Develop the draft National Seed Strategy and Implementation Plan (2015-2020)	BLM (lead agency) BIA, FHA, USFS, FWS, NPS, ARS, NRCS, NIFA, and USGS (support agencies)	April 2015
#2. Identify a forum to discuss and highlight current native seed and restoration techniques and research.	BLM and USFS	April 2015
#3. Provide an opportunity to discuss current research, case studies, and tools that inform applied restoration opportunities in the Great Basin.	BLM and USFS Great Basin Native Plant Project, Society for Ecological Restoration, and Fire Science Exchange	May 2015

Final Report Actions (Longer Term)

FINAL REPORT ACTION ITEMS (LONGER-TERM)		
Action Item	Responsible Party/Parties	Target to Complete
Cross Cut Items		
#1. Develop interagency capability and functionality to provide ongoing coordination, oversight, and accountability to ensure timely and appropriate implementation of the Strategy and the supporting action items.	Rangeland Fire Task Force (Lead)	Third Quarter 2015; Ongoing
#2. Develop and share a geospatial tool that highlights areas of concern and priority habitats in the Great Basin, including within priority greater sage grouse habitat, particularly in areas identified using the Fire and Invasives Assessment Tool (FIAT).	USGS Associate Director for Core Science Systems (Lead) BLM AD for Fire and Aviation Dept. Geospatial Information Officer BLM AD for Renewable Resources and Planning (Support)	Third Quarter 2016

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p><i>#3. Establish an interagency framework with protocols, standards, and capacity to conduct long and short term monitoring at all appropriate scales, of the sagebrush steppe ecosystem condition and the effectiveness of fire prevention, fire suppression, and habitat restoration. Use adaptive management to respond to changing conditions, guide new science, and adjust management practices and policy.</i></p>	<p>USGS AD for Ecosystems for development of monitoring framework and BLM AD for Renewable Resources and Planning for field implementation of monitoring (Co-Leads) and USFS and other appropriate Federal and state agencies and tribes</p>	<p>Fourth Quarter 2016</p>
<p><i>#4. Develop and implement efficient and appropriate National Environmental Policy Act (NEPA) and other environmental compliance processes.</i></p>	<p>Office of the Secretary – Assistant Secretary – Policy, Management, and Budget and Assistant Secretary – Land and Minerals Management (Co-Leads) Support: BLM, FWS, BIA, NPS, and other supporting agencies</p>	<p>Third Quarter 2015 to develop process, including schedule for implementation</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
#5. <i>Develop multi year resource and action plan to implement the Strategy and supporting actions and develop tools to facilitate integrated budget development and track implementation.</i>	Assistant Secretary – Policy, Management, and Budget (Lead) DOI Assistant Secretaries and Bureau Directors, in coordination with USDA (Support)	Ongoing
#6. <i>Enhance Funding Leverage and Collaboration with Partners.</i>	Assistant Secretary – Policy, Management, and Budget (Lead) DOI Assistant Secretaries and Bureau Directors, in coordination with USDA (Support)	Ongoing
7(b) i. Integrated Response Plans		
#1. <i>Update Fire Management Plans to enhance protection of the sagebrush steppe from wildfire.</i>	DOI Bureau Fire Executives (Co-Leads) Local Unit Fire Management Officers – BLM, NPS, BIA, and FWS (Support)	Second Quarter 2016 for FIAT Areas Second Quarter 2017 outside FIAT Areas
#2. <i>Develop a national technology plan to increase the availability of technology and technology transfer to wildland fire managers.</i>	Fire Management Board (Lead) DOI and USFS Chief Information Officers (CIOs) and Bureau ADs for Information	Second Quarter 2016

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
	Resources (IR) (Support)	
<i>#3. Strengthen rapid and long term response capabilities and capacity in priority greater sage grouse habitat, particularly in identified FIAT areas.</i>	DOI Bureau Fire Executives (Lead)	Second Quarter 2016
<i>#4. Develop a long term national plan for enhancing capability, capacity, and utilization of non federal wildland fire assets and organizations.</i>	Director, Office of Wildland Fire (OWF); Director, USFS Fire and Aviation Management (FAM) (Co-Leads) DOI Bureau and USFS Fire Executives; USFA (Support)	Second Quarter 2016
7(b) ii. Prioritization and Allocation of Resources		
<i>#1. Identify and take actions to reduce administrative barriers that adversely affect the mobility of firefighting assets.</i>	Director, OWF; Director, USFS FAM (Co-Leads) DOI Bureau Fire Executives, USFA, and NASF; DOI and USFS business and financial management offices (Support)	Second Quarter 2016
<i>#2. Enhance predictive services and fire intelligence capabilities to anticipate, plan for, and utilize firefighting resources and assets.</i>	Director, OWF; Director, USFS FAM (Co-Leads) Fire Management Board, National Weather Service, and non-federal partners, including states	Second Quarter 2016, with additional enhancements in future years

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
	(Support)	
#3. Engage international and Department of Defense (DOD) partners.	Director, OWF; Director, USFS FAM (Co-Leads) DOI International Affairs and USFS International Fire (Support)	International Agreements: Fourth Quarter 2015 DOD Agreements: Second Quarter 2016
#4. Review cooperative agreements between Federal, tribal, and state entities.	Director, OWF; Director, USFS FAM (Co-Leads) DOI Bureau Fire Executives; Chair, Forest Fire Protection Committee, NASF (Support)	Second Quarter 2016
#5. Improve management of the radio spectrum.	Director, OWF; Director USFS FAM (Co-Leads) DOI and USFS CIOs, Bureau ADs for IR, DOI Bureau Fire Executives (Support)	Second Quarter 2016
#6. Support efforts to identify responsibility for protecting all lands.	Director, OWF; Director USFS FAM (Co-Leads) Bureau state and regional Fire Management Officers (Support)	Ongoing
#7. Develop mechanisms to capture and analyze data regarding allocation of firefighting assets and wildfire impacts to priority sagebrush steppe ecosystems.	Director, OWF; Director, USFS FAM (Co-Leads) DOI Bureau and USFS Resource and Fire Executives, USFA, and NASF; and Fire Management Board (Support)	Second Quarter 2016

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
7(b) iii. Fuels		
#1. <i>Identify fuels management priorities.</i>	BLM ADs for Renewable Resources and Planning and Fire and Aviation (Co-Leads) USFS, NRSC, FWS, state agencies, counties and private landowners (Support)	Third Quarter 2015, continued improvements in subsequent years
#2. <i>Develop common interagency metrics to validate fuels management activities in sagebrush steppe.</i>	Director, OWF (Lead) Federal land management agencies, USGS, JFSP, interested tribes, and non-federal partners (e.g., states, NGOs, etc.) (Support)	First Quarter 2016
#3. <i>Review and update current best management practices (BMPs) for rangeland fuel treatments.</i>	BLM AD for Fire and Aviation (Lead) Agency fuels specialists (DOI, USFS, NRCS), wildlife, range/vegetation, research scientists with fuel treatment experience, scientific community representatives, and non-federal partners (WAFWA, WGA representatives, and other NGOs) (Support)	Third Quarter 2016

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p>#4. Coordinate the development of effective landscape level fuel treatment plans.</p> <p>4a. Initiate a pilot project to test existing tools and/or prototype versions of new tools. An initial pilot project will occur to test Interagency Fuels Treatment Decision Support System (IFT DSS).</p>	<p>BLM AD for Fire and Aviation; USFS Wildland Fire Management Research, Development, and Application (WFMRD&A) (Co-Leads) NRCS, NWCG Interagency Fuels Committee (Support)</p>	<p>Results from initial pilot project by Fourth Quarter 2015; initiate additional pilot project(s) in the First Quarter of 2016</p>
<p>4b. Use results from pilot project(s) to make improvements in models and identify appropriate tools for developing strategies for future landscape level fuel treatments in sagebrush steppe ecosystems. Coordinate with other agencies and organizations that may develop and lead additional pilot projects.</p>	<p>BLM AD Fire and Aviation and USFS WFMRD&A (Co-Leads) NRCS, DOI land management agencies, JFSP, and USFS National Forest Systems (NFS); scientific and academic communities, NGOs (Support)</p>	<p>Core capabilities developed by the end of the First Quarter 2016; Review completed by end of Third Quarter 2016; and Recommendations to the Fire Management Board by the end of the First Quarter 2017</p>
<p>5. Implement a comprehensive knowledge transfer program to enhance the fuels management program's role in sagebrush steppe management.</p>	<p>BLM AD for Fire and Aviation and BLM AD for Renewable Resources and Planning (Co-Leads) USFS and DOI Bureau Fire and Resource Executives working with JFSP and/or NGO/universities to develop training (Support)</p>	<p>Develop training by Second Quarter 2016; Deliver training in 2017</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p>6. Explore opportunities to provide support to livestock grazing permittees and private landowners to implement fuel treatment actions as part of strategic, landscape efforts to protect, conserve, and restore sagebrush steppe habitats.</p>	<p>BLM AD for Renewable Resources and Planning and NRCS (Co-Leads) BLM AD for Fire and Aviation, USFS, Soil and Water Conservation Districts, private landowners, states, counties, and RFPAs (Support)</p>	<p>Identify landscapes by the First Quarter 2016; Fund work for 2017</p>
<p>7. Explore incentives for livestock producers to implement targeted fuel and vegetation treatments.</p>	<p>BLM AD for Renewable Resources and Planning and FWS AD for Ecological Services (Co-Leads) Private landowners, states, counties, and RFPAs (Support)</p>	<p>Evaluate opportunities for livestock producer engagement in FIAT areas by First Quarter 2016; Expand assistance/incentives to producers and permittees in priority landscapes in 2016 – 2017.</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p>#8. Use risk based, landscape scale approaches to identify and facilitate investments in fuel treatments in the Great Basin.</p> <p><i>a. DOI will use a risk based approach to allocate program funds to Bureaus.</i></p> <p><i>b. DOI agencies to apply a risk based approach to allocate fuels management program funds to units.</i></p>	<p>8a. Director OWF (Lead) DOI Bureau Fire Executives (Support)</p> <p>8b. DOI Bureau Fire Executives (Co-Leads)</p>	<p>8a. Complete by Fourth Quarter of 2015 for 2016 and 2017</p> <p>8b. By Fourth Quarter 2015 for 2016 and 2017 funding</p>
<p>7(b) iv. Integrate Science into Project Design and Implementation</p>		
<p>#1. Develop a Conservation and Restoration Strategy for the sagebrush steppe that considers emerging science, particularly ecological resistance, and resilience in habitat management, fuels treatment and restoration projects.</p>	<p>BLM ADs for Renewable Resources and Planning and Fire and Aviation (Co-Leads)</p> <p>Other DOI and USDA agencies, states, tribes, WAFWA, NGOs, and other partners in conservation science and development, and invite stakeholders to participate (Support)</p>	<p>Fourth Quarter 2016</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p>#2. <i>Identify priority actions for conservation and restoration.</i></p>	<p>BLM ADs for Renewable Resources and Planning and Fire and Aviation (Co-Leads) Other DOI and USDA agencies, states, tribes, WAFWA, NGOs, and other partners in conservation science and development, and invite stakeholders to participate (Support)</p>	<p>Fourth Quarter 2016</p>
<p>#3. <i>Incorporate traditional ecological knowledge into management practices.</i></p>	<p>BLM AD for Renewable Resources and Planning (Lead) Other DOI and USDA agencies, states, tribes, WAFWA, NGOs, and other partners in conservation science and development, and invite stakeholders to participate (Support)</p>	<p>Fourth Quarter 2016</p>
<p>7(b) v. Post Fire Restoration</p>		
<p>#1. <i>Review, update, and resolve Emergency Stabilization (ES) and Burned Area Rehabilitation (BAR) policy, procedures, and allocation changes to meet the goals of the Order.</i></p>	<p>Director, OWF (Lead) DOI Bureau Fire and Resource Executives (Support)</p>	<p>Third Quarter 2015</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p>#2. Integrate ES, BAR, and other restoration programs to adhere to ecologically based desired conditions, and develop processes for long term restoration commitment and maintenance of ES and BAR treatments.</p>	<p style="text-align: center;">Director, OWF (Lead) DOI Bureau Fire and Resource Executives (Support)</p>	<p style="text-align: center;">Second Quarter, 2016</p>
<p>#3. Conduct periodic reviews to test efficacy of ES and BAR programs.</p>	<p style="text-align: center;">Director, OWF (Lead) DOI Bureau Fire and Resource Executives (Support)</p>	<p style="text-align: center;">Third Quarter 2016</p>
<p>7(b) vi. Commit to Multi year Investments in Restoration</p>		
<p>#1. Identify, document and map current investments in restoration, monitoring, and adaptive management.</p>	<p style="text-align: center;">BLM AD for Renewable Resources and Planning (Lead) BLM ADs for Energy, Minerals, and Realty Management and Fire and Aviation; OWF; other DOI and USDA agencies, states, tribes, WAFWA, and partners in conservation and development (Support)</p>	<p style="text-align: center;">First Quarter 2016</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p>#2. Identify and initiate actions to reduce administrative barriers to fulfilling multi year commitments to restoration, monitoring, and adaptive management and to collaborating across landscapes.</p>	<p>BLM AD for Renewable Resources and Planning (Lead)</p> <p>BLM ADs for Energy, Minerals, and Realty Management and Fire and Aviation; OWF; other DOI and USDA agencies, states, tribes, WAFWA, and partners in conservation and development (Support)</p>	<p>Second Quarter 2016</p>
<p>#3. Describe lessons learned from existing multi year investment programs and recommend procedural changes for funding multi year plans for restoration, monitoring, and adaptive management.</p>	<p>BLM AD for Renewable Resources and Planning (Lead)</p> <p>Other DOI Bureaus and USDA agencies Invite tribes, partners, and stakeholders to participate (Support)</p>	<p>First Quarter 2016</p>
<p>#4. Develop a community of practice for restoration, monitoring, and adaptive management in the sagebrush steppe ecosystem.</p>	<p>BLM AD for Renewable Resources and Planning (Lead)</p> <p>BLM ADs for Energy, Minerals, and Realty Management and Fire and Aviation; OWF; other DOI and USDA agencies, states, tribes, WAFWA, and partners in conservation and development (Support)</p>	<p>Fourth Quarter 2016</p>
<p>#5. Develop comprehensive policies and consistent funding to implement the Conservation and Restoration Strategy</p>	<p>BLM AD for Renewable Resources and Planning and Fire and Aviation (Co-Leads)</p> <p>BLM ADs for Energy, Minerals, and Realty</p>	<p>Fourth Quarter 2016</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
	and Fire and Aviation; OWF; other DOI and USDA agencies, states, tribes, WAFWA, and partners in conservation and development (Support)	
7(b) vii. Large scale Activities to Remove Invasive Non native Grasses		
#1. Develop a framework for a national invasive species Early Detection and Rapid Response (EDRR) program.	DOI Invasive Species Coordinator (Lead) BLM AD for Renewable Resources and Planning; FWS, NPS, USGS, USFS, NRCS, DOC, Environmental Protection Agency (EPA), and National Invasive Species Council (NICS), WGA, state agencies, tribes, and NGOs (Support)	First Quarter 2016
#2. Conduct large scale research and demonstration projects for control of cheatgrass and other invasive annual grasses to identify and advance effective strategies for preventing the spread of invasive species and support large scale rangeland restoration.	BLM ADs for Renewable Resources and Planning and Fire and Aviation; USGS AD for Ecosystems (Co-Leads) FWS, BIA, NPS, USFS, NRCS, ARS, NGOs, tribes, and GBLCC (Support)	Third Quarter 2016

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
#3. Complete the Vegetation Treatments Programmatic Environmental Impact Statement.	BLM AD for Renewable Resources and Planning (Lead)	Fourth Quarter 2016
#4. Develop a process to coordinate with the Animal and Plant Health Inspection Service (APHIS) and EPA on registration and labeling of new invasive annual grass biological and chemical control agents, as applicable.	BLM AD for Renewable Resources and Planning (Lead) USGS, USFS, ARS, APHIS, and EPA (Support)	Fourth Quarter 2015
#5. Develop scalable and adaptive grazing management plans for reducing invasive annual grass and other fine fuels through targeted livestock grazing methods to diminish fire risk in priority greater sage grouse areas to meet greater sage grouse habitat goals.	BLM AD for Renewable Resources and Planning (Lead) NRCS, FWS, USFS, ARS, states, counties, grazing permittees, and private landowners (Support)	Agreements and standards in place for use by Third Quarter 2017
7(b) viii. Science and Research		
#1. Develop and maintain an inventory of research commitments and capacity.	DOI Science Advisor (Lead) USGS, BLM, FWS, NPS, USFS, NRCS, ARS, JFSP and GBLCC (Support)	Third Quarter 2015 and Ongoing
#2. Review existing research prioritization and strategy efforts to identify science needs for the Great Basin.	USGS AD for Ecosystems (Lead) Appropriate Federal agencies, JFSP, and GBLCC (Support)	Fourth Quarter 2015

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
<p>#3. <i>Develop an actionable science plan of prioritized research needs.</i></p>	<p>USGS AD for Ecosystems and USFS Deputy Chief for Research and Development (R&D) (Co-Leads) Interagency team of appropriate Federal, state, tribal, academic, JFSP, and GBLCC representatives (Support)</p>	<p>Third Quarter 2016</p>
<p>#4. <i>Develop or identify a primary online science delivery system to allow easier access to published science products and other science information.</i></p>	<p>JFSP and GBLCC (Co-Leads) Other information providers, affected Federal and state agencies, tribes, NGOs (Support)</p>	<p>Fourth Quarter 2015</p>
<p>#5. <i>Identify available funding sources to support the action plan and implement new research in 2017 and beyond.</i></p>	<p>DOI Science Advisor (Lead) Other Federal agencies, tribes, GBLCC, JFSP, and DOI Science Coordinator (Support)</p>	<p>Third Quarter 2016 for budget plan development, re-occurring for out-year budget requests</p>
<p>#6. <i>Conduct periodic reviews and updates of the science action plan.</i></p>	<p>USGS AD for Ecosystems (Lead) Interagency team of appropriate Federal, state, tribal, academic, JFSP, and GBLCC representatives (Support)</p>	<p>Re-occurring with first update in 2019</p>

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
7(b) ix. Seed Strategy		
#1. Complete and issue the National Seed Strategy and Implementation Plan (2015-2020) to increase production, storage capacity, acquisition, and use of genetically appropriate and locally adapted seed.	BLM AD for Renewable Resources and Planning (Lead) BIA, FWS, NPS, and USGS; USDA (USFS, NRCS, ARS, National Institute of Food and Agriculture [NIFA]); DOT Federal Highway Administration (FHWA); Smithsonian; and U.S. Botanical Garden (Support)	Fourth Quarter 2015
#2. Implement the National Seed Strategy.	BLM AD for Renewable Resources and Planning (Lead) BIA, FWS, NPS, and USGS; USDA (USFS, NRCS, ARS, National Institute of Food and Agriculture [NIFA]); DOT Federal Highway Administration (FHWA); Smithsonian; U.S. Botanical Garden; and private entities (Support)	Fourth Quarter 2016
#3. Increase the availability of native seed and plant materials by ensuring the collection, production, storage, and distribution of commercial seed for long term rangeland conservation in collaboration with private partners.	BLM AD for Renewable Resources and Planning (Lead) BIA, FWS, NPS, and USGS; USDA (USFS, NRCS, ARS, National Institute of Food and Agriculture [NIFA]); DOT Federal Highway Administration (FHWA); Smithsonian; U.S. Botanical Garden and private parties	Fourth Quarter 2015 and ongoing

FINAL REPORT ACTION ITEMS (LONGER-TERM)

Action Item	Responsible Party/Parties	Target to Complete
	(Support)	
#4. Coordinate and collaborate across agencies climate trend data as it relates to seeds.	USGS Associate Director for Climate Change and Land Use (Lead) DOI and USDA agencies; state agencies, tribes, scientific and academic institutions, and NGOs (Support)	Fourth Quarter 2015 and ongoing
#5. Increase the availability of native seed and plant materials for the Great Basin.	BLM AD for Renewable Resources and Planning (Lead) BIA, FWS, NPS; USDA (USFS, NRCS, ARS, National Institute of Food and Agriculture [NIFA]), and Great Basin Native Plant Project (Support)	Fourth Quarter 2015 and ongoing
#6. Work with tribal and agency plant material specialists to improve efficiencies in rangeland seeding operations for restoration that includes Emergency Stabilization (ES) and Burned Area Rehabilitation (BAR).	USGS AD for Ecosystems on developing design and monitoring protocols; Implementation by DOI bureaus (Lead)	Fourth Quarter 2016
#7. Expand efforts to utilize native and non native seed and vegetation plantings, where appropriate, to accelerate efforts to improve and restore post fire rangeland health.	IBAER (Lead) DOI Bureaus (Support)	Second Quarter 2016

Appendix C – Fire and Invasive Assessment Tool (FIAT)

Overview of the FIAT

Greater Sage-Grouse Wildfire, Invasive Annual Grasses & Conifer Expansion Assessment (Fire and Invasive Assessment Tool, June 2014; (Prepared by Fire and Invasive Assessment Team (Appendix 5), 44 pages).

Introduction and Background

The purpose of the Fire and Invasive Assessment Tool (FIAT) is to identify priority habitat areas and management strategies to reduce the threats to greater sage-grouse resulting from impacts of invasive annual grasses, wildfires, and conifer expansion. The Conservation Objectives Team (COT) report (USFWS 2013) and other scientific publications identify wildfire and conversion of sagebrush habitat to invasive annual grass dominated vegetative communities as two of the primary threats to the sustainability of greater sage-grouse (*Centrocercus urophasianus*, hereafter sage-grouse) in the western portion of the species range. For the purposes of this assessment protocol, invasive species are limited to, and hereafter referred to, as invasive annual grasses (e.g., primarily cheatgrass (*Bromus tectorum*)). This assessment also addresses the Conifer expansion (also called encroachment).

The development of the FIAT process was in response to FWS' need for an assurance that DOI would strategically address fire and invasive species on the landscape and tied to the Conservation Objectives Team (COT) Report (FWS 2013). The concept of the FIAT was first presented to the National Policy Team (NPT) at a September 2013 Federal agency meeting. The decision by the NPT from that meeting was to conduct the FIAT (Fire and Invasive Assessment Team) assessments and commissioned a team led by Mike Pellant, BLM, Great Basin Restoration Initiative Coordinator. The final FIAT process report was completed in June 2014, and then the Fire and Invasives Assessment *Teams* evolved into a Fire and Invasives Assessment *Tool* (or Process). Evolution was completed after issuance of BLM Instruction Memorandum (IM) 2014-134 from BLM Assistant Director Resources, and Planning, on August 28, 2014.

The initial analysis is limited to Western Association of Fish and Wildlife Management Agencies' (WAFWA) Management Zones III, IV, and V (roughly the Great Basin region) because of the significant issues associated with invasive annual grasses, conifer expansion, and the high occurrence of wildfires in this region. An interagency team of wildland fire and resource management specialists and research ecologists from BLM, USFS Rocky Mountain Research Station, ARS, USGS, FWS, and NRCS developed the FIAT protocol to specifically incorporate resistance to invasive annual grasses and resilience to disturbance principles into the assessment protocol.

The cornerstone of the FIAT protocol is recent scientific research on resistance and resilience of Great Basin ecosystems (Chambers et al. 2014a). The Western Association of Fish and Wildlife Agencies (WAFWA) assembled an interdisciplinary team to address the issues of wildfires and invasive annual grasses. This interagency collaboration between rangeland scientists, fire specialists, and sage-grouse biologists resulted in the development of a strategic, multi-scale approach for employing ecosystem resilience and resistance concepts to manage threats to sage-grouse habitats from wildfire and invasive annual grasses (Chambers et al. 2014b). This paper, published as a Forest Service Rocky Mountain Research Station General Technical Report [RMRS-GTR-326](#), serves as the reference and basis for the FIAT protocol. A paper derived from this GTR is being developed for peer-reviewed publication in a scientific journal.

FIAT Process

The assessment process included two steps with sub-elements:

Step 1

First, important Priority Areas for Conservation (PACs) and focal habitats are identified (Step 1a). Second, potential management strategies are identified to conserve or restore important focal habitats threatened by wildfires, invasive annual grasses, and conifer expansion (primarily pinyon pine and/or juniper species; Step 1b) within focal habitats. Focal habitats are the portions of a PAC with important habitat characteristics that support viable populations of greater sage-grouse, and are at risk due to threats (e.g., wildfires, invasive annual grasses, and conifer expansion). Soil temperature and moisture regimes are used to characterize capacity for resistance to invasive annual grasses and resilience to disturbance (primarily wildfires) within focal habitats and to assist in identifying appropriate management strategies.

Step 2

Step 2 is conducted by local management units to address wildfire, invasive annual grasses, and conifer expansion in or near focal habitat areas. The geospatial data from Step 1 are integrated with more refined local data in Step 2 of the assessment process. By integrating regional findings, refined local data, and resistance/resilience concepts, FIAT step 2 produces a suite of potential treatments and management strategies for sage-grouse conservation. Specifically, these include management opportunities for fuels management, habitat restoration, fire operations, and post-fire rehabilitation. These opportunities are developed in concert with State and Federal partners, and involve management across ownerships.

The Science That Supports FIAT

Greater sage-grouse are considered a landscape species that require very large areas to meet their annual life history needs. Greater sage-grouse are highly clumped in their distribution (Doherty et al. 2010), and the amount of landscape cover in sagebrush is an important predictor of greater sage-grouse persistence in these population centers (Knick 2011). FIAT used data sets that were

available across the three management zones as an initial step for prioritizing five large PACs and several smaller adjacent PACs for the first round of FIAT assessments.

Priority Areas for Conservation (PACs) and Breeding Bird Density (BBD)

PACs were developed in the COT Report (USFWS 2013) based on greater sage-grouse habitat requirements and population data and served as the first filter for the assessment. Greater sage-grouse breeding bird densities (BBD) developed by Doherty et al. (2010) were used to identify greater sage-grouse population concentration centers. While this coverage strongly reflects breeding habitats, it also serves as the best regional dataset for portraying greater sage-grouse population abundance. Finer scale seasonal habitat use data was incorporated at local levels (where available) to ensure management actions encompassed all seasonal habitat requirements.

For this assessment, FIAT chose to use the 75 percent BBD as an indicator of high bird density areas and focused management activities in or near these areas in the PACs selected for assessments. Note that breeding density areas displayed in Doherty et al. (2010) were identified using best available information in 2009. Where available, more current BBD data provided by State game and fish agencies were incorporated into FIAT Step 2 assessments. Subsequent analysis should use the most current information available. In addition, BBD areas should not be viewed as rigid boundaries but rather as a means to prioritize landscapes regionally where step down assessments and actions should be implemented quickly to conserve the most birds.

Soil Temperature and Moisture Regimes

In cold desert shrublands, vegetation community resistance to invasive annual grasses and resilience following disturbance is strongly influenced by soil temperature and moisture regimes. Generally, colder soil temperature regimes and moister soil moisture regimes are associated with more resilient and resistant vegetation communities. While vegetation productivity and ability to compete and recover from disturbance increase along a moisture gradient, cooler temperatures limit invasive annual grass growth and reproduction (Chambers et al. 2007; Chambers et al. 2014a). Conversely, warm and dry soil temperature and moisture regimes and to a lesser degree cool and dry soil temperature and moisture regimes, are linked to less resistant and resilient communities that are more likely to be invaded by invasive annual grasses. These relationships can be used to prioritize management actions within sage-grouse habitat using broadly available data.

To capture relative resistance and resilience to disturbance and invasive annual grasses across the landscape, soil temperature and moisture regime information (described in detail in Chambers et al. 2014b) were obtained from the NRCS Soil Survey Geographic Database (SSURGO) data. Where gaps in this coverage existed, the NRCS US General Soil Map (STATSGO2) data were used (Soil Survey Staff 2014a, b).

Sagebrush Landscape Cover

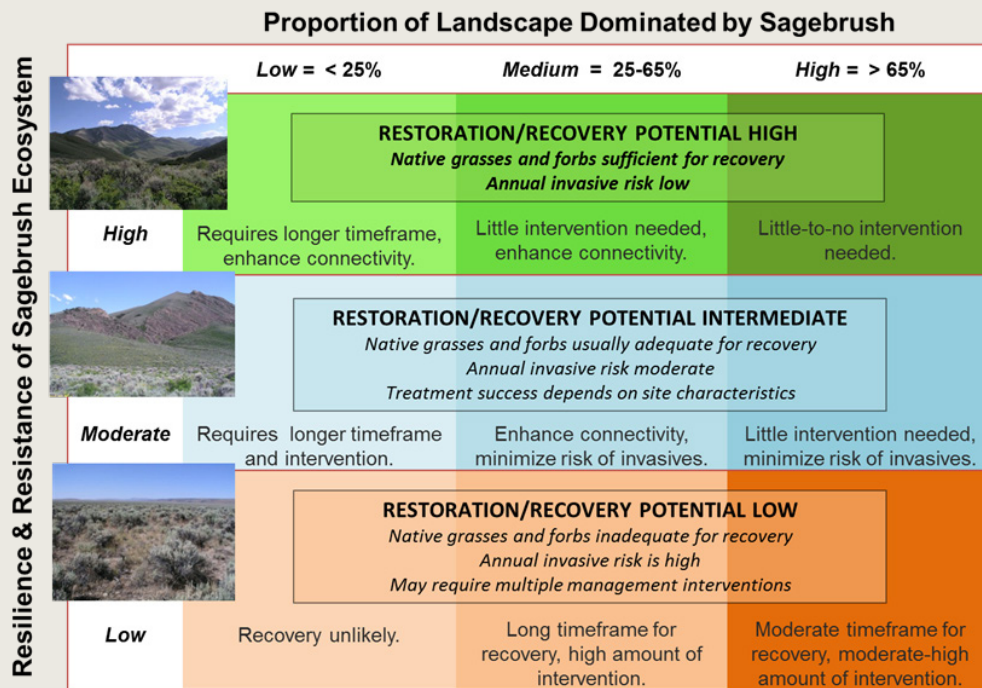
The amount of the landscape in sagebrush cover is closely related to the probability of maintaining active sage-grouse leks, and is used as one of the primary indicators of sage-grouse

habitat potential at landscape-scales (Aldridge et al. 2008; Wisdom et al. 2011; Knick et al. 2013). For purposes of prioritizing landscapes for sage-grouse habitat management, FIAT used less than or equal to 25 percent sagebrush landscape cover as a level below which there is a low probability of maintaining sage-grouse leks, and greater than or equal to 65 percent as the level above which there is a high probability of sustaining sage-grouse populations with further increases of landscape cover of sagebrush (Aldridge et al. 2008; Wisdom et al. 2011; Knick et al. 2013). FIAT then grouped the percentage of landscape sagebrush cover into each of the selected categories (0 to 25 percent, 25 to 65 percent, and 65 to 100 percent). These thresholds were used to inform the development of management opportunities in the FIAT assessments.

Putting it All Together: Sage-Grouse Habitat Matrix

The key to the FIAT Assessment is the Sage-Grouse Habitat Matrix (below) which assists managers in prioritizing management activities based on the resistance and resilience of the landscape and the amount of sagebrush landscape cover. Combined with the 75% Breeding Bird Density, managers have the information needed to prioritize areas for fire operations, fuels management, post-fire rehabilitation and habitat restoration and recovery.

Figure C-1. Matrix designed to link ecosystem resilience and resistance with potential species habitat for sagebrush ecosystems and greater sage-grouse in the western portion of sage-grouse’s range. The rows provide information on the restoration/recovery potential of ecological types with relatively high, moderate, and low resilience and resistance and are illustrated here by mountain big sagebrush/mountain brush, mountain big sagebrush, and Wyoming sagebrush, respectively. The columns provide information on the amount of time and types of intervention required to increase sagebrush cover, and the probability of sage-grouse persistence for areas with low (< 25%), medium (25-65%) and high (> 65%) land cover of sagebrush. The management objective is to move from left to right within each resilience and resistance category and increase contiguous land cover of sagebrush (adapted from Chambers et al. 2014b).



Status of FIAT Assessments

The BLM was the lead agency for the FIAT Step 2 assessments, which were completed on March 27, 2015.

Additional partners contributing to the assessments include USFWS, U.S. Forest Service, Rocky Mountain Research Station, NRCS, and state game and fish agencies. In total, five FIAT assessments are complete for highly valued landscapes, as identified in FIAT step 1. These landscapes correspond to PACs, as outlined in the COT Report (USFWS 2013):

- Central Oregon
- Northern Great Basin
- Snake/Salmon/Beaverhead
- Southern Great Basin
- Western Great Basin / Warm Springs Valley NV, Western Great Basin

In each of these areas, FIAT teams applied guidance from Chambers et al. (2014b), the COT report (USFWS 2013), and additional science to identify management strategies and potential treatments, which ameliorate threats to greater sage-grouse. These management opportunities include fuel breaks, which complement fire suppression efforts; removal of conifer species expanding into greater sage-grouse habitats; treatment of invasive annual grasses and native plant reestablishment; identifying areas for highest fire suppression priority; and prioritizing landscapes for rehabilitation practices when wildfires occur. In addition to the written assessments, spatial data depictions of the location and extent of management opportunities were developed.

In the years ahead, BLM and partner agencies will implement these potential treatments and management strategies, contributing to sage-grouse conservation through habitat improvement, efficient fire suppression, effective post-fire recovery, and projects, which improve firefighter success.

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Appendix D – Wildland Fire Management Overview

An Overview of Wildland Fire Management

Terminology

Wildland fire is any non-structure fire that occurs in vegetation or natural fuels. Wildland fire includes prescribed fire and wildfire. Rangeland fire is wildland fire occurring in rangelands. The term Fire Management includes all activities for the management of wildland fires to meet land management objectives. Fire management includes the entire scope of activities from planning, prevention, fuels or vegetation modification, prescribed fire, hazard mitigation, fire response, rehabilitation, monitoring and evaluation.

Wildland Fire Organizations

The DOI, United States Forest Service, state, tribes, counties, and local governments maintain operational wildland fire organizations. These are supplemented by volunteer organizations such as volunteer fire departments and rangeland protection associations. In DOI, the operational fire organizations reside in Bureau of Land Management (BLM), National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), and Bureau of Indian Affairs (BIA). Other organizations such as US Fire Administration (in Department of Homeland Security) and U.S. Geological Survey (USGS) have fire expertise that supports and partners with the operational fire organizations. The Office of Wildland Fire (OWF) at DOI provides budget and policy coordination, leadership, and oversight for the operational programs within DOI.

Wildland Fire Governance

A number of chartered interagency groups exist to provide coordination and consistency among the wildland fire organizations to ensure policy and operational consistency and interoperability. Among these are:

- Wildland Fire Leadership Council – policy level coordination and leadership among Federal, state, tribal, and local organizations
- Federal Fire Policy Council – policy leadership among Federal agency heads
- Forest Fire Protection Committee, National Association of State Foresters - policy and program coordination among states
- Fire Executive Committee – policy direction and oversight among Federal fire senior executives
- Fire Management Board – program management and coordination among Federal fire program directors

- National Wildfire Coordinating Group – intergovernmental development of interoperability standards for adoption by individual agencies
- National Multi-Agency Coordination Group – national level intergovernmental allocation and prioritization of firefighting assets
- Geographic Area Multi-Agency Coordination Group – geographic level intergovernmental allocation and prioritization of firefighting assets

Firefighting Assets

Firefighting assets consist of all those items necessary to conduct wildland fire management activities, including: personnel (permanent, seasonal, contract, agency employees), owned and leased vehicles and equipment (engines, dozers, radios, and so on), owned and leased aircraft (fixed wing, helicopters), supplies, and facilities (fire stations, warehouses, tanker bases, and so on). Each firefighting organization acquires and manages assets within its operational fire program.

Preparedness assets (those already paid for) are placed at locations determined by each organization based on workload, complexity, risk, and similar factors. Assets in excess of immediate local need are available for re-assignment (these are identified in the system as “available”). Re-assignment may be a one-time assignment of an asset to support an incident in a different location or re-assignment could be the relocation of an asset to another area once the height of fire season has passed at their home base.

Contract, leased, and purchased assets are acquired by the incident team as needed. These can include heavy equipment (dozers, water tenders, and so on), aviation, supplies, and contract or short-term employees.

Guiding Principles for Sharing Firefighting Assets

Firefighting assets are shared as needed – no single agency or unit has enough assets to meet peak needs. As assets are shared, four guiding principles are used:

- Total mobility – all assets can move if not needed
- Interoperability – all assets are interchangeable – training, organization, functionality, etc.
- Closest forces – use available assets that are closest, regardless of ownership
- Local control and direction of incidents – objectives, strategies, tactics are set by local unit manager (owner)

Fighting Fire

Initial Attack (95-98% of all fires): Initial attack on an incident uses local unit assets. Assets are deployed based on pre-planned dispatch (“run cards”) that specify response based on conditions (time of year, location, values at risk, environmental conditions, weather, etc.) Additional “mutual aid” support from nearby units is used if needed.

Extended Attack: When an incident (fire) need additional assets the local (“zone”) interagency dispatch fills “resource orders” from within the geographic extent of the dispatch area using the principles total mobility and closest forces. If sufficient assets are not available within that dispatch zone Geographic Areas will fill resource orders across dispatch boundaries. During extended attack, local forces may largely return to initial attack responsibilities.

Large Fires: For sustained large fires, a separate (temporary) fire organization established for that incident. An incident management team under the jurisdiction and authority of the local manager manages the incident. Requests for assets (resource orders) placed in the same manner described above. Local firefighting forces return to initial attack duty.

Setting Priorities

Broad national priorities are set in policy and articulated through Leaders’ Intent documents from senior agency leadership. Specific priorities are set at multiple levels – to accomplish incident management objectives, to ensure efficient and cost-effective use of assets, and to adjudicate scarce assets:

- At the incident – through objectives for the incident
- Locally – among fires in a local area
- Geographically – among fires in the Geographic Areas
- Nationally – among Geographic Areas

The responsibility for setting priorities lies with agency administrators, on interagency/ intergovernmental basis as necessary. Dispatch centers and fire management staffs execute those priorities.

At the local, initial attack local multi-agency coordinating (MAC) groups of local managers set scale priorities. General priorities are set pre-season through mobilization guides and pre-planned dispatch, based on values to be protected, weather parameters, and other factors. During incidents, specific priorities are set to manage scarce assets and meet management objectives.

At the Geographic Area, level Geographic Area MAC groups of regional-level managers set priorities. Priorities are set through mobilization guides similar to local units – based on values to be protected and other parameters. During the season, priorities are established to manage scarce assets and meet management objectives. Geographic Areas set priorities among fires, not on individual fires.

At the national level, the National MAC group sets pre-season priorities through a national mobilization guide based on national policy direction. During the season, priorities are set to manage scarce assets and meet management objectives on a national scale. At the national level, priorities are set among Geographic Areas, not on individual fires. The national MAC group pays particular attention to the management of scarce and expensive “national resources/assets” (e.g. air tankers, Type 1 teams, Type 1 crews) among Geographic Areas.

Appendix E – Secretarial Order 3336

Rangeland Fire Prevention, Management, and Restoration

ORDER NO. 3336

Subject: Rangeland Fire Prevention, Management and Restoration

Sec. 1 **Purpose.** This Order sets forth enhanced policies and strategies for preventing and suppressing rangeland fire and for restoring sagebrush landscapes impacted by fire across the West. These actions are essential for conserving habitat for the greater sage-grouse as well as other wildlife species and economic activity, such as ranching and recreation, associated with the sagebrush-steppe ecosystem in the Great Basin region. This effort will build upon the experience and success of addressing rangeland fire, and broader wildland fire prevention, suppression and restoration efforts to date, including the National Cohesive Wildland Fire Management Strategy, and ensure improved coordination with local, state, tribal, and regional efforts to address the threat of rangeland fire at a landscape-level.

Sec. 2 **Background.** The Department of the Interior is entrusted with overseeing the management of Federal lands for the benefit of current and future generations as well as the protection and recovery of imperiled species of flora and fauna and the ecosystems upon which they depend. Rangeland fires in the Great Basin of the Western United States have increased in size and intensity in recent years. The accelerated invasion of non-native annual grasses, in particular cheatgrass and medusahead rye, and the spread of pinyon-juniper across the sagebrush-steppe ecosystem, along with drought and the effects of climate change, have created conditions that have led to the increased threat of rangeland fires to the sagebrush landscape and the more than 350 species of plants and animals, such as mule deer and pronghorn antelope, that rely on this critically important ecosystem. As a result, the increasing frequency and intensity of rangeland fire also poses a significant threat to ranchers, livestock managers, sportsmen, and outdoor recreation enthusiasts who use the sagebrush-steppe ecosystem, and puts at risk their associated economic contributions across this landscape that support and maintain the American way of life in the West.

In 2010, the U.S. Fish and Wildlife Service (USFWS) found that the invasion of annual grasses and the loss of habitat from fire in the Great Basin is a significant threat to the greater sage-grouse in that portion of its remaining range. The USFWS is now considering whether protections under the Endangered Species Act are warranted. In response to this finding, the Bureau of Land Management (BLM) and the U.S. Forest Service are currently undertaking land use plan revisions and amendments to incorporate appropriate conservation measures to conserve, enhance, and restore greater sage-grouse habitat by reducing, eliminating, or minimizing threats to that habitat. More targeted actions to reduce the likelihood and severity of fire, to stem the spread of invasive species, and to restore the health and resilience of the landscape are necessary to preserve, protect, and restore greater sage-grouse habitat in the sagebrush-steppe ecosystem, and address important public safety, economic, cultural, and social concerns. This includes enhanced

coordination and collaboration with partners and stakeholders, including rangeland fire protection associations.

Sec. 3 Authorities. This Order is issued under the authority of Section 2 of Reorganization Plan No. 3 of 1950 (64 Stat.1262), as amended. Other statutory authorities related to this Order include and are not limited to the following:

- a. National Environmental Policy Act (NEPA), 42 U.S.C. 4321 *et seq.*
- b. The Endangered Species Act (ESA), 16 U.S.C. 1531 *et seq.*
- c. The Migratory Bird Conservation Act, 16 U.S.C. 715 *et seq.*
- d. The National Fish and Wildlife Foundation Establishment Act, 16 U.S.C. 3701 *et seq.*
- e. The Fish and Wildlife Coordination Act, 16 U.S.C. 661 *et seq.*
- f. The Federal Land and Policy Management Act (FLPMA), 43 U.S.C. 1701 *et seq.*
- g. The Federal Land Assistance Management and Enhancement Act of 2009, Title V of Division A of P.L. 111-88.

Sec. 4 Policy. Protecting, conserving, and restoring the health of the sagebrush-steppe ecosystem and, in particular, greater sage-grouse habitat, while maintaining safe and efficient operations, is a critical fire management priority for the Department. Allocation of fire management resources and assets before, during, and after wildland fire incidents will reflect this priority, as will investments related to restoration activities.

Sec. 5 Developing an Enhanced Fire Prevention, Suppression, and Restoration Strategy. To accomplish protection, conservation, and restoration of greater sage-grouse habitat the Department, through the Rangeland Fire Task Force established in accordance with Section 6, will:

- a. Work cooperatively and collaboratively with other Federal agencies, states, tribes, local stakeholders, and non-governmental organizations on fire management and habitat restoration activities, including: (i) Enhancing the capability and capacity of state, tribal, and local government, as well as non-governmental, fire management organizations, including rangeland fire protection associations and volunteer fire departments, through improved and expanded education and training; and (ii) Improving coordination among all partners involved in rangeland fire management to further improve safety and effectiveness.
- b. Utilize risk-based, landscape-scale approaches to identify and facilitate investments in fuels treatments, fire suppression capabilities, and post-fire stabilization, rehabilitation, and restoration in the Great Basin.
- c. Seek to reduce the likelihood, size, and severity of rangeland fires by addressing the spread of cheatgrass and other invasive, non-native species.

- d. Commit wildland fire management resources and assets to prepare for and respond to rangeland fires.
- e. Advance the development and utilization of technologies for identifying areas of high ecological and habitat value in sagebrush-steppe ecosystems to enhance fire prevention and sage-grouse habitat protection efforts.
- f. Apply science and research to improve the identification and protection of resistant and resilient sagebrush-steppe landscapes and the development of biocontrols and other tools for cheatgrass control to improve capability for long-term restoration of sagebrush-steppe ecosystems.
- g. To the extent practicable, utilize locally-adapted seeds and native plant materials appropriate to the location, conditions, and management objectives for vegetation management and restoration activities, including strategic sourcing for acquiring, storing, and utilizing genetically-appropriate seeds and other plant materials native to the sagebrush-steppe ecosystem.
- h. Encourage efforts to expedite processes, streamline procedures, and promote innovations that can improve overall rangeland fire prevention, suppression and restoration efficiency and effectiveness.
- i. Explore opportunities to pilot new strategies to reduce the threat of invasive, non-native plant species and rangeland fire to sagebrush-steppe ecosystems and greater sage-grouse conservation, including enhanced use of veteran fire crews and youth conservation teams, and efforts to further public-private partnerships to expand capacity for improved fire management.
- j. Establish protocols for monitoring the effectiveness of fuels management, post-fire and long-term restoration treatments and a strategy for adaptive management to modify management practices or improve land treatments when necessary.

Sec. 6 Rangeland Fire Task Force. A Rangeland Fire Task Force (Task Force) is hereby established and is chaired by the Deputy Secretary. Members of the Task Force shall include: Assistant Secretary – Policy, Management and Budget, Assistant Secretary – Land and Minerals Management, Assistant Secretary for Fish and Wildlife and Parks, Assistant Secretary – Water and Science, and Assistant Secretary – Indian Affairs. The Task Force will do the following:

- a. Develop a science-based strategy to reduce the threat of large-scale rangeland fire to habitat for the greater sage-grouse and the sagebrush-steppe ecosystem through effective rangeland management (including the appropriate use of livestock), fire prevention, fire suppression, and post-fire restoration efforts at a landscape-scale.
- b. Conduct a comprehensive review of the existing programs, policies, and practices associated with current efforts to prevent, suppress, and restore rangeland fire-impacted sagebrush-steppe, including the outcomes of the recent rangeland fire conference *The Next Steppe: Sage-grouse and Rangeland Fire in the Great Basin*, and utilize the experience of the conference participants; and the expertise of the practitioners and senior policy groups in this effort.

c. Seek input from the U.S. Geological Survey and individual Bureau Fire Directors in the Department; the U.S. Forest Service and the Natural Resources Conservation Service in the Department of Agriculture; various state wildland fire agencies and programs; the offices of the governors in the states most threatened by rangeland fire, including California, Oregon, Nevada, Utah, and Idaho, as well as the Western Governors' Association; affected American Indian tribes; scientists; and local, community-based fire organizations such as the rangeland fire protection associations, weed collaboratives, native seed production organizations, soil and water conservation districts, and various stakeholder groups with interest and expertise in rangeland fire prevention, suppression, and rangeland restoration.

Sec. 7 Implementation Plan, Deliverables and Report.

a. No later than February 1, 2015, the Task Force will provide a detailed plan for implementing this Order that includes a process for tribal consultation.

b. The Task Force will provide to the Secretary two reports that outline actions that can be accomplished prior to the onset of the 2015 Western fire season, actions that can be accomplished prior to the onset of the 2016 Western fire season, and actions that will require a longer period for implementation. At a minimum, these actions are to include the following:

(i) Design and implement comprehensive, integrated fire response plans for the Fire and Invasives Assessment Tool evaluation areas in the Great Basin subject to fire and invasive species;

(ii) Provide clear direction on the prioritization and allocation of fire management resources and assets; (iii) Expand the focus on fuels reduction opportunities and implementation; (iv) Fully integrate the emerging science of ecological resilience into design of habitat management, fuels management, and restoration projects; (v) Review and update emergency stabilization and burned area rehabilitation policies and programs to integrate with long-term restoration activities;

(vi) Commit to multi-year investments for the restoration of sagebrush-steppe ecosystems, including consistent long-term monitoring protocols and adaptive management for restored areas;

(vii) Implement large-scale experimental activities to remove cheatgrass and other invasive annual grasses through various tools; (viii) Commit to multi-year investments in science and research; and (ix) Develop a comprehensive strategy for acquisition, storage, and distribution of seeds and other plant materials.

c. No later than March 1, 2015, the Task Force will present its initial report on actions that will be implemented prior to the 2015 Western fire season. Individual bureaus are also encouraged to take immediate action to implement improvements within their respective areas of responsibility before the initial report is issued.

d. No later than May 1, 2015, the Task Force will present its final report on activities that will be implemented prior to the 2016 Western fire season, and longer term actions to implement the policy and strategy set forth in this Order, including to ensure continued implementation of approved actions associated with the strategy.

Sec. 8 **Implementation.** The Deputy Secretary is responsible for implementing all aspects of this Order. This responsibility may be delegated as appropriate. This Order does not alter or affect any existing duty or authority of individual Assistant Secretaries or bureaus.

Sec. 9 **Effect of the Order.** This Order is intended to improve the internal management of the Department. This Order and any resulting report or recommendations are not intended to, and do not, create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its departments, agencies, instrumentalities or entities, its officers or employees, or any other person. To the extent there is any inconsistency between the provisions of this Order and any Federal laws or regulations, the laws or regulations will control.

Sec. 10 **Expiration Date.** This Order is effective immediately. It will remain in effect until its provisions are converted to the Departmental Manual, or until it is amended, superseded or revoked, whichever occurs first.

/s/ Sally Jewel

Secretary of the Interior

Date: January 5, 2015

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Appendix F – Glossary of Terms

Burned Area Rehabilitation (BAR)

The post-fire activities prescribed and implemented to rehabilitate and restore fire-damaged lands.

Draw Down Level

The minimum level of personnel and equipment resources needed (at either the local or national level) without compromising response capability.

Emergency Stabilization (ES)

Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.

Initial Attack

A prepared response to wildfire given the wildfire's potential. Initial attack may include size up, patrolling, monitoring, holding action, or suppression.

Medusahead Rye

Medusahead rye is a type of annual grass.

Multi-Agency Coordinating Group (MAC Group)

A national, regional, or local management group for interagency planning, coordination, and operations leadership for incidents. Provides an essential management mechanism for strategic coordination to ensure incident resources are managed efficiently and appropriately in a cost-effective manner.

National Environmental Protection Act (NEPA)

The NEPA process ensures that information on environmental impacts is considered in the decisionmaking process undertaken by Federal agencies. The Act establishes national environmental policy, including a multidisciplinary approach to considering environmental effects in Federal Government agency decisionmaking.

Organizational Owner

Organization owner is the organization (Federal, state, or local) that funds the resource or resources.

Rangeland Fire

Any wildfire located on rangelands.

Section 106

Requires Federal agencies to consider the effects of projects they approve, fund, or carryout on historic properties.

Resilient Ecosystems

Resilient ecosystems have the capacity to regain their fundamental structure, processes, and functioning when altered by stressors like drought and disturbances, inappropriate livestock grazing, 21 and altered fire regimes.

Resistant Ecosystems

Resistant ecosystems have the capacity to retain their fundamental structure, processes, and functioning when exposed to stresses, disturbances, or invasive species.

Severity Funding

Suppression funds used to increase the level of pre-suppression capability and fire preparedness when predicted or actual burning conditions exceed those normally expected, due to severe weather conditions.

Step Up Plans

Step up plans (also called staffing plans) are designed to direct incremental preparedness actions in response to increased fire danger.

Wildfire

An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.