2016

Greater Sage-Grouse Conservation & the Sagebrush Ecosystem

Collaborative Conservation at Work

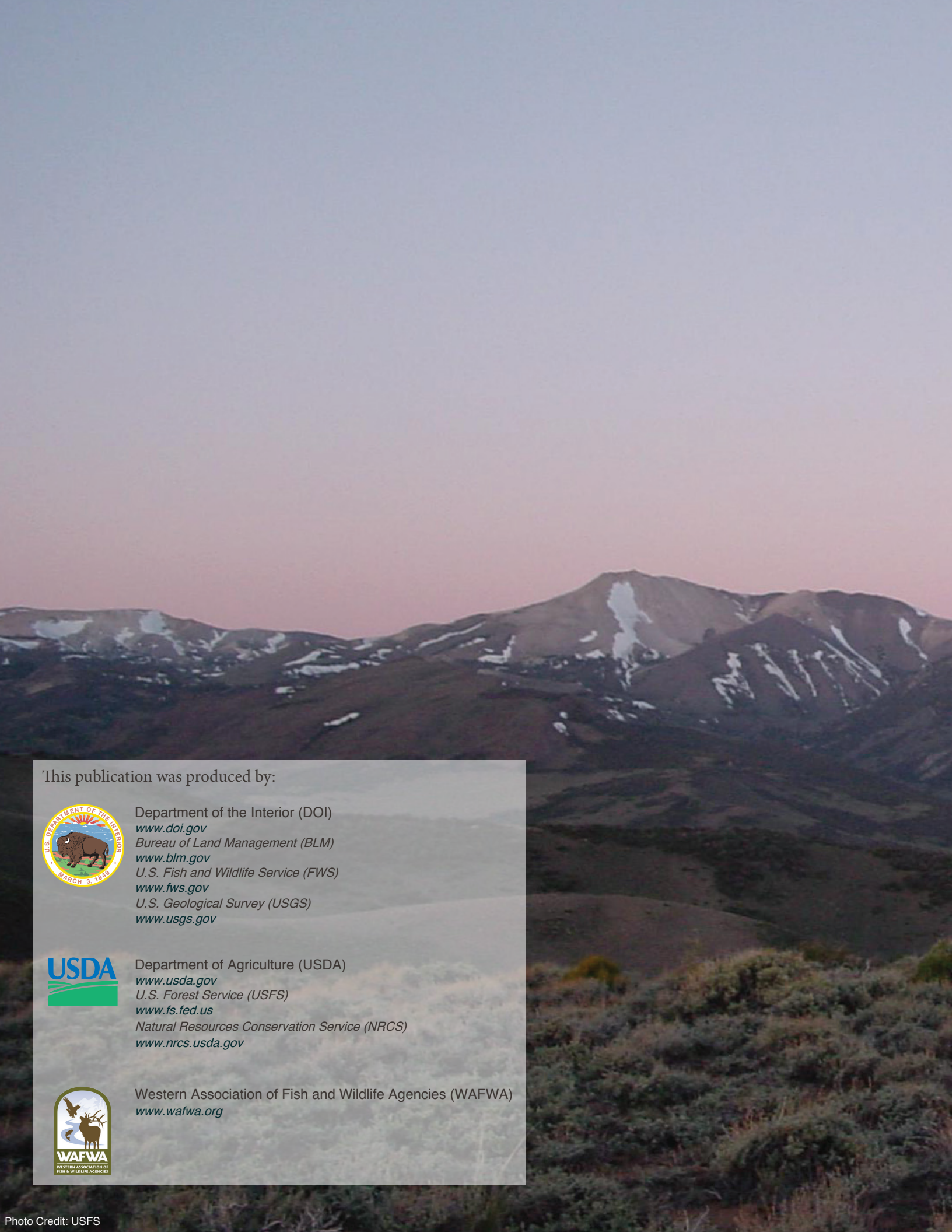

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Photo Credit: USFS

Greater Sage-Grouse Conservation & the Sagebrush Ecosystem

Collaborative Conservation at Work

"Sagebrush is a balm for the troubles in my life."
- Duane Coombs, Nevada Rancher

Photo Credit: Alicia Brown, BLM

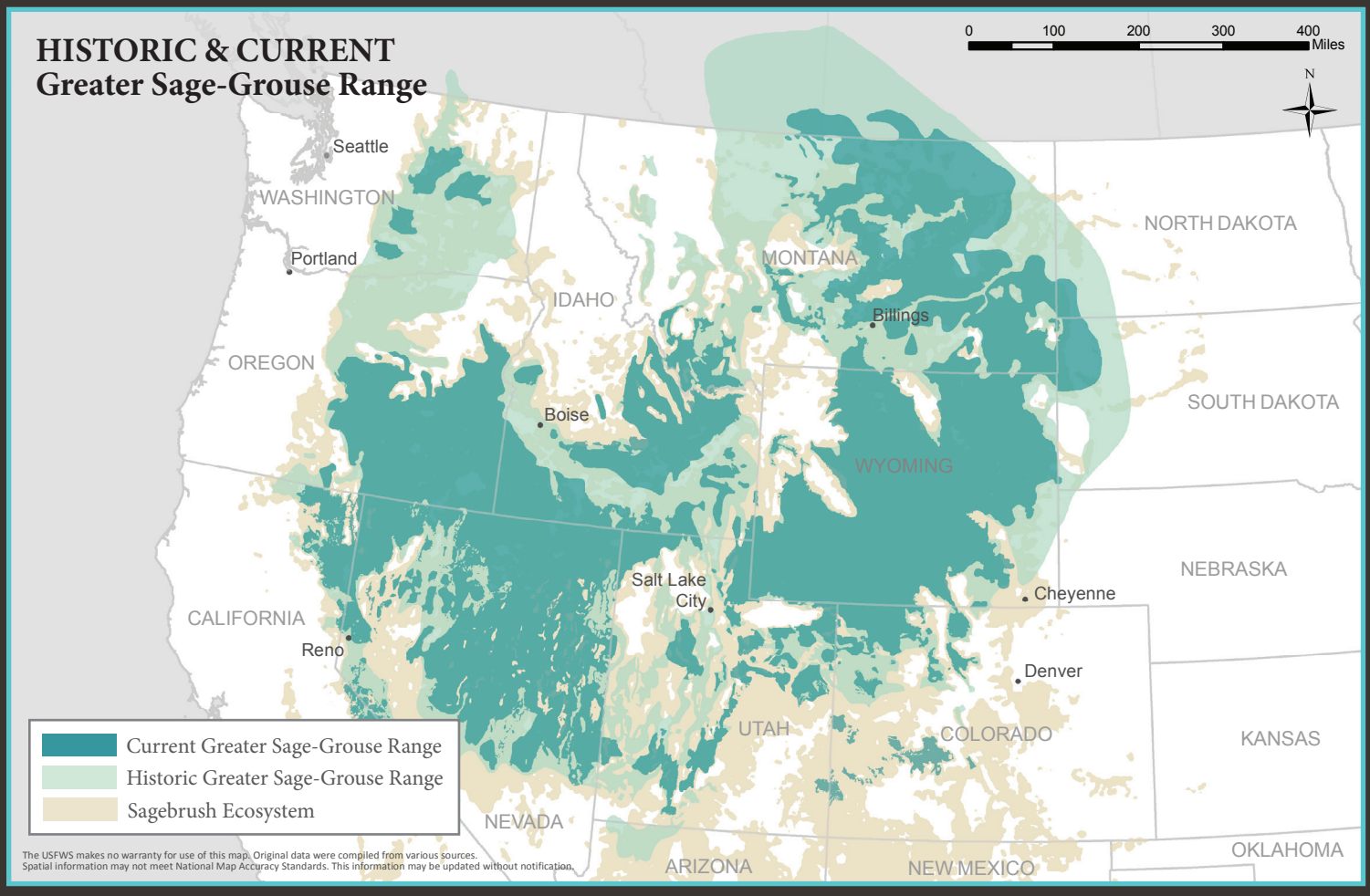
A Collaborative Story of

Greater Sage-Grouse & Sagebrush Conservation

Across eleven states and over 173 million acres, U.S. federal and state agencies, private landowners, and partners are coming together to protect the Greater sage-grouse with a conservation approach built on coordination and partnership. This collaboration led to the historic decision by the U.S. Fish and Wildlife Service (FWS) in September of 2015 to not list the bird under the Endangered Species Act.

This 2016 report highlights selected recent accomplishments of federal agencies and partners in conserving the sagebrush ecosystem and the more than 350 species, including the Greater sage-grouse, as well as the human traditions and livelihoods that depend on it.

Our Goal: *A healthy, working sagebrush landscape for people and wildlife*



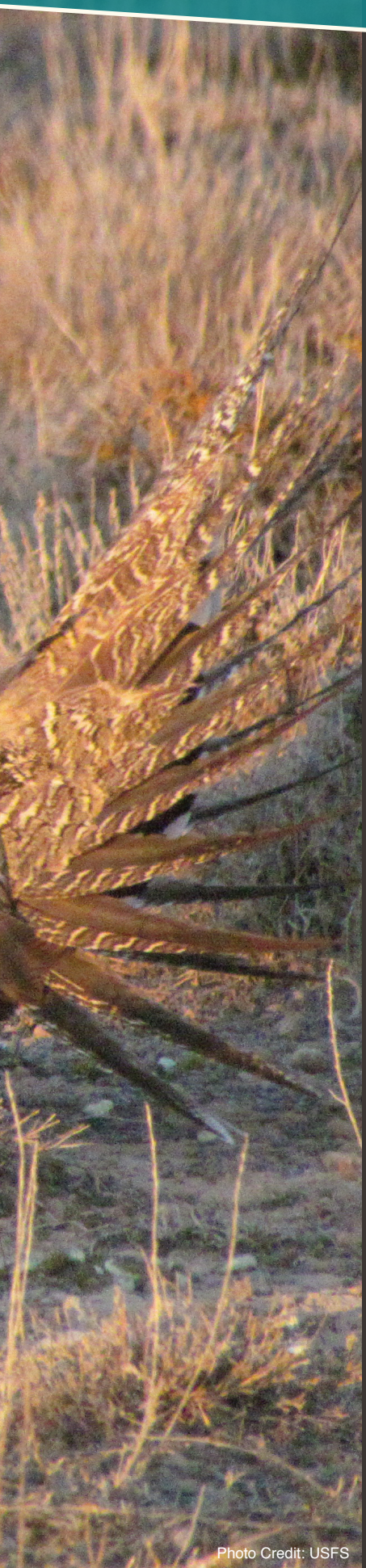


Photo Credit: USFS

Effective conservation of the Greater sage-grouse and its habitat requires a landscape-scale, science-based, collaborative approach that includes strong federal plans, a strong commitment to conservation on state and private lands, and a proactive strategy to reduce the risk of rangeland fires. Conserving sage-grouse truly needs an all hands, all lands approach.

The effort reflects a paradigm shift in how federal and state agencies, public land users, private landowners and other groups roll up their sleeves to work together and take on the challenges and opportunities associated with managing western landscapes, wildlife, and ecosystems.

By focusing on the shared vision of protecting highly-valued habitat while conserving a working sagebrush landscape for wildlife and people, the Greater sage-grouse conservation effort has achieved unparalleled results. The work benefits westerners and hundreds of species that are in the landscape, while giving states, businesses and communities the certainty they need to plan for sustainable economic development.

The FWS will *conduct a review* in 2020 to evaluate the effectiveness of the sage-grouse plans and related measures to conserve the species. Agencies from the Department of the Interior (DOI) and the U.S. Department of Agriculture (USDA) – in concert with partners, states and ranchers – will continue to work together to conserve the sagebrush ecosystem for the benefit of the Greater sage-grouse and the many people and species who call this landscape home.

Leadership from States and Partners

States, private landowners and local partners have enacted sage-grouse conservation programs and strategies that complement federal land management plans to ensure sage-grouse conservation occurs across vast landscapes with complex ownership boundaries. Several states have implemented Executive Orders to ensure the long- term sustainability of Greater sage-grouse habitat or have established funding mechanisms to maintain, enhance, restore, expand or benefit sage-grouse habitat and populations. Their leadership has led to innovation in conservation; development of tools that help track disturbances and population numbers; and built strong working relationships among private landowners, partners, and agencies.

Sage-Grouse Task Force (SGTF)

Formed in 2011 by Governors Mead (WY) and Hickenlooper (CO) and then-Secretary of the Interior Salazar, and with representation from each sage-grouse state and relevant federal agency, SGTF has been instrumental in coordinating federal and state efforts to conserve the Greater sage-grouse. SGTF worked to shape the sage-grouse conservation plans and to target assistance to private landowners to conserve sage-grouse habitat. SGTF has and continues to provide input on plan implementation and is critical to the continued success of this collaborative conservation effort and to ensuring ongoing coordinated management across jurisdictional boundaries.

Managing Public Lands for Multiple Use

Public lands managed by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) make up more than half of all sage-grouse habitat, and many of the subsurface resources such as oil, gas and other minerals. To develop the necessary public land planning framework that has both the appropriate scale and necessary flexibility to simultaneously protect sage-grouse and provide for sustainable development to support rural communities, Resource Management and Land Use Plans had to be amended. Completing a planning effort of this size was without precedent and today represents the largest single planning effort in BLM history.

Amending 98 Resource Management and Land Use Plans Across the Range

The BLM and USFS finalized the Records of Decisions (RODs) for sage-grouse in September 2015, a massive effort, which amended 98 land or resource management plans to benefit sage-grouse and other wildlife species, while maintaining multiple uses of such lands. The RODs, and their associated approved land use plans (LUPs), provide the foundation of the BLM and USFS Greater Sage-Grouse Conservation Strategy and adopted conservation measures. Plans generally call for avoiding or minimizing new and additional surface disturbances; improving habitat conditions; reducing threat of rangeland fire to sage-grouse and sagebrush habitat; and monitoring and evaluating the effectiveness of conservation measures.

Providing Guidance and Handbooks to Implement Sage-Grouse Plans

To ensure the new sage-grouse plans are implemented consistently, and with enough flexibility to respond to local conditions and needs, USFS developed and issued a series of Implementation Guides and BLM developed Instruction Memoranda (IMs) for key elements of the plans (e.g., how to measure and mitigate ground disturbances and prioritize future oil and gas leasing decisions). BLM and USFS worked closely with SGTF and representatives from state governors' offices and fish and wildlife agencies to gather feedback and input on the guidance to ensure the direction was clear, practical and consistent with the overall sage-grouse conservation strategy.

Hosting Trainings and Workshops on the Greater Sage-Grouse Plans

To help explain the sage-grouse conservation strategy, discuss the new plans, talk through specific required management activities, and gather input on implementation policy, BLM hosted a series of trainings and workshops across the range for agency staff, stakeholders and partners. With over 1,200 attendees, these events provided an excellent opportunity to reach out directly to partners who are also invested in conserving the species and the sagebrush ecosystem and for workshop coordinators to listen to concerns and field questions. The BLM will continue to meet with and engage its partners at all levels on plan implementation.

"Stakeholders came together to map out what areas are too important to the bird to disturb, what areas should have development activity modified or adjusted, and what areas should have the green light to continue business as usual. The epic collaboration did result in a thoughtful, science-based roadmap for a healthy ecosystem and sustainable development across a landscape."
- Sally Jewell, Secretary of the Interior

Photo Credit: DOI

Promoting Proactive Conservation

Central to the conservation strategy is maintaining healthy, productive, native rangelands that provide the diversity of habitats that sage-grouse depend upon. Many factors impact the health and resiliency of sagebrush landscapes to adapt to change and must be addressed to maintain and restore ecosystem function. Therefore, sage-grouse conservation partners have joined forces to protect and restore the health of sagebrush ecosystem. These proactive conservation efforts range from removing encroaching conifers, to revegetating previously disturbed sites, to restoring and protecting important mesic areas, to combating invasive annual grasses and catastrophic wildfire among others. Habitat improvements not only benefits landscapes, it also helps maintain local and national economies.

Comprehensive Strategy Created to Address Rangeland Fire and Rehabilitation

Fire is a natural element of functioning sagebrush systems, but severe fires can lead to significant habitat loss, especially when linked to the impact of exotic invasive annual grasses like cheatgrass. Secretary Sally Jewell made this a top priority for DOI and convened a diverse coalition to develop a comprehensive, coordinated strategy to address rangeland fire. To kick the plan into high gear, Secretary Jewell signed Secretarial Order 3336 Rangeland Fire Prevention, Management, and Restoration in January 2015. The new strategy and Secretarial Order aim to reduce the likelihood, size, and severity of rangeland fires and direct wildland fire management resources to prepare for and respond to rangeland fires, including post-fire rehabilitation.

Growing Millions of Plants for Sagebrush Habitat Restoration

The USFS's Lucky Peak Nursery, based near Boise, Idaho, is *making a difference to agencies' efforts to restore sagebrush habitat*. Since fall 2015, the nursery has grown over 4.7 million sagebrush seedlings that are being replanted at the U.S. Army Yakima Training Center in Washington and USFS- and BLM-managed public lands in Idaho, Nevada, and Oregon. Lucky Peak Nursery will be growing the seeds for the South Fork Boise River Post-Fire Restoration Project. Planting of sagebrush and bitterbrush will occur in FY17, benefitting sage-grouse habitat as well as big game winter range in the sagebrush steppe. Partners on this project are Rocky Mountain Elk Foundation and Idaho Department of Fish and Game.

USFS's Lucky Peak Nursery grows millions of native plants for habitat restoration projects.

Photo Credit: USFS

Photo Credit: BLM

Soda Fire rehabilitation: BLM worked with federal, tribal, state, and local partners to develop an All-hands, All-lands Strategy to re-establish a resistant and resilient landscape of native grasses, shrubs, and forbs, and prevent invasive annual grasses like cheatgrass.

Rehabilitating Public Lands after the Soda Fire

In 2015, the Soda Fire burned nearly 280,000 acres of sage-grouse habitat in southwest Idaho and eastern Oregon. BLM has led efforts for *emergency stabilization and rehabilitation* focusing on partnership, research, and adaptive management. Treatments include herbicide; seeding and seedling planting; experimental use of soil bacteria to reduce cheatgrass vitality; a pilot project using targeted livestock grazing to establish fuel breaks in the wildland-urban interface; and the use of monitoring data to adaptively manage the landscape during retreatments.

Dedicating Funding to Address Rangeland Fire

BLM's wildland fire management programs have made substantial commitments of approximately $56 million to address rangeland fire in sage-grouse habitat. This includes funding for additional fire crews and equipment preparedness; sage-grouse vegetation and fuels breaks projects; fire prevention and habitat education; and enhancing partnerships, including Rangeland Fire Protection Associations (RFPA). Often the first responders to remote rangeland wildfires, many RFPA members are also federal grazing permittees who share BLM's interest in reducing wildfire impacts to sage-grouse habitat. Funding also supported Team Rubicon, a group of military veterans who share a commitment to public service and have volunteered to fight rangeland fire on public lands.

Western Association of Fish and Wildlife Agencies (WAFWA)

Representing twenty-three states and Canadian provinces, WAFWA supports sound resource management and building partnerships at all levels to conserve native wildlife for the use and benefit of all citizens, now and in the future. WAFWA led initial efforts to design Greater sage-grouse management zones; develop conservation strategies; create data-driven tools; and build partnerships to promote collaborative conservation across the bird's range. Their work on the range-wide comprehensive conservation strategy for Greater sage-grouse created the foundation for many of the efforts that led to FWS's 2015 not warranted finding. WAFWA continues to lead innovative approaches and is expanding conservation efforts to the entire sagebrush ecosystem.

Photo Credit: NRCS

NRCS Commits Additional $211 Million for Sage-Grouse Initiative Through 2018

NRCS launched the Sage-Grouse Initiative (SGI) in 2010 as a partnership approach to proactively target efforts that sustain the working rangelands that support sage-grouse populations. Using voluntary and incentive-based Farm Bill conservation programs, SGI addresses non-regulatory threats facing sage-grouse, mainly fragmentation of their habitat, which is the primary reason for declines. Since 2010, more than 1,300 ranches across 11 Western states have signed on, conserving over 5 million acres of land — an area of working lands more than twice the size of Yellowstone National Park. Participating producers also have peace of mind knowing they will not face additional regulations if sage-grouse are listed in the future under ESA due to a novel partnership agreement with FWS. Due to the overwhelming popularity of this approach, USDA Secretary Tom Vilsack committed an additional $211 million to continue SGI implementation through the life of the Farm Bill (2018) through the *Sage-Grouse Initiative Investment Strategy*, dubbed SGI 2.0. SGI is projected to conserve 8 million acres of sage-grouse habitat by 2018.

Ranchers Partner with Sage-Grouse Initiative to Improve Habitat and Ranches' Bottom Line Northwest

Nevada ranchers, Tony and Diane Stobiecki, are proud of the conservation improvements on their 3,000-acre ranch. With the help of SGI, the Rockin' TD Ranch has restored vital riparian and meadow habitat, installed wildlife-friendly fencing, and removed encroaching conifer while improving forage for livestock across the ranch.

Aligning the Wildland Resilient Landscapes Program

In FY 2015, DOI announced $10 million in funding for the *Wildland Fire Resilient Landscapes*, which directed resources to restore the health and fire resilience of iconic landscapes like the sagebrush ecosystems. This move helps implement the goals outlined in S.O. 3336 and further complements resources BLM and USFS have prioritized to the effort. To date, funded projects have removed conifers, seeded native vegetation, mitigated fire severity, and reduced hazardous fuels in important habitat areas for Greater, Bi-State, and Gunnison sage-grouse in Colorado, Utah, Idaho, Nevada, and California. Partners include The Nature Conservancy (TNC), FWS, BLM, NRCS, National Park Service (NPS), Bureau of Indian Affairs, Tribes, and States.

> *"These projects ... demonstrate how, by working collaboratively, we can make progress in restoring and maintaining ecosystems for the communities and species that rely on them."*
> - Kris Sarri, DOI's Principal Deputy Assistant Secretary for Policy, Management and Budget

Partnering on Sage-Grouse Habitat Restoration

Inmates from Coyote Ridge Corrections Center in eastern Washington are *growing 20,000 sagebrush plants* that will be planted on BLM-managed public land. The pilot program began in 2015 at a prison in eastern Oregon and has expanded to prisons in Washington, Idaho, and Montana. In addition to the various correctional facilities, BLM *partners on this project* with the Sustainability in Prisons Project and Institute for Applied Ecology.

Intermountain West Joint Venture (IWJV) Partnerships

The IWJV seeks to conserve priority bird habitats through collective, science-based projects and programs across 11 western states and has been instrumental helping NRCS implement the Sage-Grouse Initiative on private lands. In 2016, *IWJV and BLM established a partnership agreement* to help transfer some of those lessons learned to implementation of conservation practices across public lands. The agreement contains four primary objectives, including: 1) Field Delivery – coordinate and streamline conservation treatments in sage-grouse habitat; 2) Science – spatially prioritize conservation treatments, measure biological response of sage-grouse and sagebrush-dependent species, and transfer decision support tools to managers; 3) Communications and Outreach – share science, resources, and partnership success stories; and 4) Partner Coordination and Support – increase public and private participation in cross-boundary conservation efforts by developing relationships with federal, state, and private stakeholders invested in strategic habitat conservation.

Tackling Conifer Encroachment

Research has shown that when conifer trees expand into sagebrush landscapes, sage-grouse disappear. Pinyon and juniper removal projects help restore the health of the sagebrush ecosystem, once again providing habitats needed by the birds. In summer 2016, BLM's Colorado River Valley Field Office partnered with Rocky Mountain Youth Corps to maintain sagebrush habitat on the southeastern edge of the Greater sage-grouse range. The youth crew of 18- to 25-year-olds cut more than 16,000 young pinyon and juniper trees on 300 acres. The partnership gave youth corps participants on-the-ground resource experience, while the entire landscape benefited from their hard work. In Utah through the State managed Watershed Restoration Initiative, over 9,000 of sagebrush habitat was restored in 2016 though the removal of conifers. These acres treated were on all lands regardless of ownership, a signal of the strength of partners and the commitment to treat the whole landscape.

Through SGI, ranchers have already reclaimed more than 400,000 acres of otherwise suitable habitat through removal of encroaching conifers to benefit sage-grouse and other sagebrush obligate species. SGI has made available to partners *tree canopy cover mapping* so that practitioners can use spatial information to plan their next restoration project to maximize the biological return on investment.

"The youth crew's dedication and hard work bought us another decade in our efforts to maintain these important sagebrush areas."
- Hilary Boyd, BLM Wildlife Biologist

Photo Credit: BLM

Collaborating with Private Land Stewards on Candidate Conservation Agreements with Assurances (CCAA)

CCAAs provide private landowners with additional incentives for engaging in voluntary, proactive conservation through assurances that limit future conservation obligations. In the CCAA, between *Eastern Oregon*'s Harney County Soil and Conservation District and FWS, landowners agree to reduce threats to sage-grouse by removing invasive cheatgrass and encroaching juniper trees, protecting sage-grouse nesting grounds, placing tags on fences as alerts to prevent in-flight collisions, and installing wildlife escape ramps in stock tanks. In return for these conservation efforts, landowners receive regulatory assurances that they will not be required to undertake any further measures should the sage-grouse be listed under the ESA.

"What's good for the bird is good for the herd."
- Tom Sharp, Harney County Oregon rancher

Photo Credit: FWS

New CCAA Under Development in Montana

In northeastern Montana, FWS is collaborating with ranchers and TNC to deliver voluntary, proactive conservation on private lands for Greater sage-grouse and four declining migratory bird species. TNC has built a successful partnership around the concept of a "grass bank" with local ranchers and is directly supporting developing a CCAA. Through its Partners for Fish and Wildlife Program (PFW), FWS is hiring an employee to work side-by-side with TNC and landowners on existing efforts in northeastern Montana to support conservation, provide regulatory assurances to landowners, and build a collaborative foundation for the future.

Science and Innovation

Science helps ensure that management actions and financial resources are strategically targeted toward on-the-ground conservation where the most beneficial conservation results can be achieved. Evaluating conservation outcomes helps refine management strategies to further improve their efficiency and effectiveness.

Development of Resistance and Resilience Tools Greatly Aid Conservation Efforts

With assistance from WAFWA, NRCS, and the U.S. Geological Survey (USGS), the BLM and USFS developed the Fire and Invasives Assessment Tool (*FIAT*) and the Soil and Moisture Resistance and Resilience Tool (SMRRT) that provide specific recommendations on best ways and places to protect, maintain, and enhance sage-grouse habitat. These cutting-edge tools greatly improve the strategic approach of conservation measures across all lands and are now being used as the basis for fire prevention, suppression and restoration plans. BLM currently uses FIAT to apply management priorities in the Great Basin while USFS has completed FIAT assessments specific to each National Forest and Grassland within the Intermountain, Northern Rockies, and Rocky Mountain Regions. SMRRT is brand new and will soon help determine resistant and resilient landscapes in the Rocky Mountain Region.

Partners Combat Invasive Plants that Fuel Severe Rangeland Fire

Professionals from county to federal levels all gathered to forge range-wide solutions to combat invasive species during the first ever ecosystem-wide *Western Invasive Weed Summit*. This summit was conducted by WAFWA in partnership with FWS, USFS, BLM, and Boise State University. To build off the successful inaugural dialogue, FWS has provided funds that are enabling WAFWA to lead an interagency effort to: 1) develop a range-wide invasive weed action plan; 2) finalize a decision-support tool to help prevent additional gains by invasive species in the eastern portion of the sagebrush range; and 3) develop an early detection and rapid response pilot project to "hold the line" against invasive species in northwestern Nevada, Oregon and Idaho.

Linking Science to Ecosystem Restoration Work

BLM, USFS, USGS, NRCS, WAFWA, and other partners developed a *science-based framework* that builds on the work of FIAT and SMRRT for a comprehensive conservation and restoration strategy. The framework creates a strategic approach to prioritize areas and effective management actions to determine habitat requirements for wildlife and the resilience and resistance of sagebrush habitats to disturbance, exotic invasive annual grasses, and ecosystem threats. Managers will use the framework to inform mitigation strategies and conservation and restoration investments.

Addressing Critical Questions about Invasive Annual Grasses

Exotic annual grasses, such as cheatgrass, are transforming the sagebrush ecosystem. These exotic grasses reduce wildlife and livestock forage and increase the frequency and extent of wildfires and associated soil erosion. USGS, USFS and Colorado State University developed the publication, *Exotic Brome-Grasses in Arid and Semiarid Ecosystems of the Western U.S.: Causes, Consequences, and Management Implications*, which provides a more complete picture of the factors that influence the impacts and management of these invasive annual grasses.

SGI Launches New Web App that Turns Science Into Targeted Implementation

In February 2016, the Sage-Grouse Initiative unveiled a *new, easy-to-use interactive web application* that turns science into actions that benefit working lands and wildlife. The SGI science team used Google Earth Engine to build an online map that combines layers of related data to better target conservation efforts in sagebrush country. This new tool is free and available to the public, presenting cutting-edge geospatial data range-wide, which helps partners visualize, distribute, and address a variety of threats to the sage-steppe ecosystem. SGI continues to add new layers to the map as they are developed.

Implementing Consistent Monitoring Through *Sage-Grouse Habitat Assessment Framework* (HAF) and *Assessment, Inventory, and Monitoring* (AIM)

Conceived by WAFWA and partners, HAF is a habitat evaluation tool that enables land managers and resource experts to evaluate landscape changes at multiple scales – from an allotment to the entire sage-grouse range – through use of data from many resource programs. The Salmon-Challis National Forest has used HAF as a post-management technique to evaluate and communicate about the importance of mesic meadows, establish consistent approaches to review the forest habitat map, and outline a Forest-wide workload plan for successful sage-grouse management. In 2016, BLM field offices stepped up AIM data collection, using a consistent scientific method, which is incorporated into HAF and land health assessments. *AIM data* form a baseline to assess trends in land health and sage-grouse habitat, providing managers with a science-based platform for land use decisions.

> *"As we do land health assessments and bring legacy data into the AIM database, we can compare what's happening with sagebrush habitat since 1950 and link with pictures. We can pull up the data, click through the photos, and see what has changed on the ground over time. With tablets, we can sit at kitchen tables with ranchers and review land changes over time."*
> - Reyer Rens, BLM Montana Supervisory Rangeland Management Specialist

BLM scientists collect AIM data at randomly-selected points to gather information for land health assessments and use with the HAF.

Photo Credit: BLM

Developing an Information and Visualization Site for Sagebrush Geospatial Data

USGS and BLM launched a free *online hub*, which allows users to view or create printable maps, download Geographic Information System (GIS) data, and compare local and regional datasets. For example, the wildland fire community can use the online tools to help select areas for preventative actions that will reduce the potential for future catastrophic fires in sagebrush habitat.

Quantifying Economic Benefits Impact of Sagebrush Restoration in Local, Regional, and National Economies

USGS *evaluated* the economic benefits of BLM sagebrush and sage-grouse habitat restoration, fuels reduction, and post-fire rehabilitation *projects*. Federal investments in these projects help conserve and enhance essential attributes of the sagebrush ecosystem for wildlife, ranching and recreation, among others. Those investments also generate business activity and create jobs. The study found that for each dollar invested in ecosystem restoration, there was a two- to three-fold return in economic activity that rippled through local, regional, and national economies.

Researching Energy Exploration and Greater Sage-Grouse Behavior

BLM Wyoming's Lander Field Office and UC-Davis combined resources for long-term, multi-part research to determine noise effects from energy exploration and development on the breeding biology of greater sage-grouse. Researchers are also investigating the role of diet quality and foraging behavior on breeding success among males. Males are radio-tracked to locate roosting and foraging locations, where scientists then study the nutritional quality of sagebrush, shrub height, and forb cover. They examine breeding behaviors by using robotic female sage-grouse to elicit courtship behaviors from males. UC-Davis' ongoing research provides a baseline for natural behaviors, helping BLM predict how sage-grouse will respond to habitat changes and treatments conducted across their range.

UC-Davis researchers examine breeding behaviors by using robotic female sage-grouse to elicit courtship behaviors from males.

Photo Credit: Dr. Alan Krakauer

"Together, we have shown that voluntary efforts joining the resources of private landowners, federal and state agencies, and partner organizations can help drive landscape-level conservation that is good for sage-grouse, ranching operations, and rural communities. Through the comprehensive initiatives on both public and private lands, the partnership has made and will continue to make monumental strides in supporting the people and wildlife that depend on the sagebrush landscape."

– Tom Vilsack, Secretary of Agriculture

Photo Credit: FWS

Photo Credit: USFS