

September 10, 2015

**Frequently Asked Questions:
Greater Sage-Grouse Status Review**

1. What is the U.S. Fish and Wildlife Service's determination regarding the status of the greater sage-grouse?

After evaluating the best available scientific and commercial information regarding the greater sage-grouse, the Service has determined that protection for the greater sage-grouse under the Endangered Species Act (ESA) is no longer warranted and is withdrawing the species from the candidate species list.

In 2010, the U.S. Fish and Wildlife Service determined that the greater sage-grouse was warranted for protection under the ESA due to the loss and fragmentation of habitat and a lack of adequate regulatory mechanisms to stem habitat loss. The Service did not propose a listing rule at the time due to the needs of higher priority species. When we made warranted but precluded a candidate.

2. How did the Service arrive at this not warranted finding?

In 2015, federal agencies completed revisions to 98 separate federal land use plans to address habitat loss and fragmentation. This represents the largest landscape-scale conservation planning effort in U.S. history. In addition, 10 of the 11 states in the greater sage-grouse range developed or updated greater sage-grouse conservation plans.

Voluntary, multi-partner private-lands efforts, including the Sage Grouse Initiative (SGI), a project of the Natural Resources Conservation Service, as well as programs run by the U.S. Fish and Wildlife Service, have protected high-quality greater sage-grouse habitat on millions of acres of private rangeland across the West.

New federal and state regulatory mechanisms developed since 2010 in the Rocky Mountain region have addressed the most serious threats to the species, primarily renewable and nonrenewable energy development, infrastructure development and conversion of sagebrush to cropland. In the Great Basin, regulatory mechanisms developed since 2010 will substantially reduce and mitigate the primary potential threats of wildfire, invasive plants, and conifer encroachment.

Since 2010, science-based regulatory mechanisms in federal and state plans have substantially reduced risks to more than 90 percent of the species' modeled breeding habitats across its 173-million-acre range.

Rangewide, numerous large populations of sage-grouse remain distributed across the landscape and are supported by undisturbed expanses of habitat. The focus of regulation and management in the most important habitat containing the greatest amount of sage-grouse will ensure that abundant sage-grouse populations will continue to be distributed across the range into the

foreseeable future.

Based on the best available scientific and commercial information, we have determined that the primary threats to sage-grouse have been ameliorated by conservation efforts implemented by federal, state, and private land owners. We expect that the species will remain well-distributed and interconnected into the foreseeable future due to the implementation of regulatory mechanisms that protect sage-grouse and their habitat. Therefore, we recommend that listing the sage-grouse in all or a significant portion of its range is not warranted at this time.

3. Why does this conservation effort matter?

The greater sage-grouse conservation effort is one of the largest and the most challenging conservation undertakings in U.S. history. Sage-grouse range over an area the size of Texas and inhabit an arid landscape where the seasons swing between blistering heat and bitter cold. It is a species that does not adapt well to sudden environmental change, yet the sagebrush landscape has experienced rapid human development during the last century, resulting in different threats to sage-grouse in different parts its range.

The Service's September 30, 2015 regulatory deadline has galvanized a large and diverse group of partners, who have worked toward a common goal of reducing or eliminating the variety of impacts to sage-grouse across its range while maintaining current and future economic development, including extractive uses of the land. The need to balance the habitat requirements of the bird with human activities has motivated scientists, land managers, ranchers, policy makers, industry and ordinary citizens to share information and ideas –and to try new approaches - to deliver a landscape-scale management strategy that addresses the bird's habitat needs and maintains a way of life in the rural West.

In terms of scope, scale and complexity, the state, federal and private conservation efforts accomplished by this diverse group in the past five years are unequalled in the history of wildlife conservation in the United States. The resources the conservation community has invested in this effort have already improved the status of the sage-grouse and the benefits will remain on the landscape for the foreseeable future.

The greater sage-grouse conservation effort sets the bar for how complex, landscape-scale conservation challenges can be resolved through cooperative efforts by people and organizations with common goals. It also demonstrates that wildlife conservation and sustainable communities can go hand in hand, and that the Endangered Species Act is an effective tool for achieving that goal. Going forward, it will be essential for all the partners who contributed to this historic achievement to maintain momentum and keep advancing conservation in this uniquely American landscape.

4. What is the range of greater sage-grouse and how does this compare to historical levels?

Prior to the European settlement of western North America in the 19th century, greater sage-grouse occurred in 13 states and three Canadian provinces. Sagebrush habitats with the potential

to support greater sage-grouse occurred over approximately 463,509 square miles (296,645,760 acres) before 1800.

Currently, greater sage-grouse are found in 11 states (California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming) and two Canadian provinces (Alberta and Saskatchewan), occupying approximately 271,600 square miles (173,000,000 acres) or about half of the historical range.

5. What is the Service's current assessment of the status of greater sage-grouse?

Greater sage-grouse populations are still relatively large and well-distributed across its range. Conservation efforts by Federal, State, and private partners have greatly changed the likely trajectory of the species since 2010, though the Service anticipates some greater sage-grouse populations may experience continued declines as these measures take effect.

We are confident that the potential habitat impacts of inadequately regulated development we identified in 2010 will now be well-managed. A combination of new regulations on federal lands and in key state management plans require avoidance of important habitat, minimization of impacts where avoidance is infeasible and mitigation for activities that destroy greater sage-grouse habitat. Voluntary conservation on private lands has also improved the outlook for local populations.

Based on the number of large, connected populations distributed across the species' range, our current assessment of primary threats to the species, and the unprecedented level of conservation actions now in place to address those threats, we have concluded that the greater sage-grouse is no longer likely to face the risk of extinction in the foreseeable future.

6. What is the population estimate of greater sage-grouse and how does this compare to historical levels?

Sage-grouse are especially difficult to count because of their large range, camouflage coloring and ability to hide in sagebrush, so there is no universally accepted population estimate for the species. State fish and wildlife agencies count male sage-grouse displaying on communal mating sites, called leks, during mating season. There is no systematic count of females, sub-adults, or non-displaying males. Counts of lekking males are used as an index, which allows wildlife managers to assess population trends.

Historic accounts suggest that greater sage-grouse were once many times more abundant than at present, with several million birds present on the landscape. Since European settlement, all of the evidence indicates that greater sage-grouse have experienced significant, long-term population declines.

Greater sage-grouse have a clumped distribution across their range as a result of variations in habitat quality and seasonal requirements. Approximately half of the birds occur in the Rocky Mountain portion of the range and half in the Great Basin portion of the range. Greater sage-grouse populations are cyclic and can fluctuate by 30 or 40 percent during one cycle (as long as

15 years). This increases the challenge that wildlife managers face in establishing population estimates.

While there is a keen interest in population sizes, the methodology, available data and assumptions make numeric population estimates difficult to track and compare. Instead, agencies primarily use lek count data as an index to calculate population trends to monitor the health and trajectory of populations across the range, within management zones, and in individual states.

There are several reports and publications that describe and report population trends derived from lek count data (Connelly et al. 2004, WAFWA 2008, Garton et al. 2011, Garton et al. 2015, and WAFWA 2015). While each analysis has had a data set that varies in length (of years), they have all estimated a long-term population decline rangewide.

The two most recent analyses conducted by Garton et al. and WAFWA in 2015, used similar data sets with different time periods. Garton et al used data from 1965-2013, while WAFWA had two additional years available (1965-2015). Both analyses report a continued long-term rangewide decline, with varying trends across Management Zones. Garton et al. 2011 suggested that the annual rate of decline from 1965-2006 was similar to that of previous analyses (Connelly et al. 2004 and WAFWA 2008). WAFWA (2015) reported an annual long-term decline of 0.83 percent rangewide.

Despite long-term population declines, greater sage-grouse remain relatively abundant and well-distributed across the species 173-million acre range.

7. Why do the population trend reports authored by Edward O. Garton and the Western Association of Fish and Wildlife Agencies differ?

Two recent population trend analyses, one by a group of researchers led by University of Idaho's Edward O. Garton and the second by WAFWA, used similar data sets based on lek counts conducted by state wildlife agencies. But they came to different conclusions about population estimates, primarily because of differences in the time frames analyzed and the additional two years of data used by WAFWA.

The latest analysis conducted by Garton et al built upon a previous analysis (Garton et al. 2011) that spanned from 1965-2007, but added data from the 2007-2013 period.

Garton et al. (2015) reported a 56 percent decline in the number of breeding males—from 2007 to 2013. Garton acknowledged that it appeared populations were at a cyclical low point in 2013.

WAFWA's population analysis incorporated data from 1965 to present, including the years 2014 and 2015, when populations appeared to enter a cyclical upswing. Their research showed a 63 percent increase in the number of breeding males from 2013 to 80,284 in 2015.

Data provided to the Service during our status review indicate that from 2010 to 2015 the rangewide greater sage-grouse population has continued its long-term decline. However, most

populations in Wyoming, Utah, Oregon and Colorado, appear to have stabilized or increased as sage-grouse appear to be in a cyclic upswing.

8. What are the potential threats to the species?

The most significant threat to the species is habitat loss and fragmentation due to a variety of causes.

In the Rocky Mountain portion of the range, sagebrush habitats have become increasingly degraded and fragmented due to fossil fuel and renewable energy development, infrastructure such as roads and power lines, mining, improper grazing and the direct conversion of sagebrush to croplands, and through urban and ex-urban development.

In the Great Basin, incursions of invasive plants such as cheatgrass and conifer, increases in wildfire size, frequency and intensity fueled by invasive plants, along with improper grazing from domestic livestock and free-roaming horses and burros, drought, and mining have eliminated the habitat and degraded the value of large areas of sagebrush habitat for greater sage-grouse.

Impacts from these stressors have been exacerbated by the lack of adequate regulatory mechanisms to control their effect on sagebrush habitat. In our finding we discuss how these threats have been ameliorated.

9. What has the Service concluded regarding the change between 2010 and 2015?

In the Rocky Mountains, federal land use plans developed since 2010 and state plans like Wyoming's Core Area Strategy have and will substantially reduce the primary potential threats of nonrenewable energy development, agricultural conversion, and infrastructure.

In the Great Basin, federal land use plans developed since 2010, combined with Oregon's state plan and the success of the Service's CCAA & CCA program will substantially reduce the primary potential threats of wildfire, invasive plants, and conifer encroachment.

10. What regulatory measures have been implemented since 2010 to better protect greater sage-grouse?

The Bureau of Land Management (BLM) and U.S. Forest Service (USFS) have each completed amendments or revisions to 98 land management plans governing more than 106 million acres of greater sage-grouse habitat. The Service provided technical assistance during the development of these federal land use plans, which are the principal regulatory documents for the activities allowed on BLM and USFS lands. This federal greater sage-grouse planning effort is unprecedented in scope and scale, and represents a significant change from managing within administrative boundaries to managing with an ecosystem approach with a goal of balancing the agencies' multiple-use mandates with conservation objectives.

Since 2010, all states within the range of the species range have updated, finalized or implemented conservation plans for the greater sage-grouse. These plans take different approaches, but in general, they identify important conservation objectives for greater sage-grouse and include mechanisms to incentivize conservation. In particular, state plans developed by Wyoming, Montana and Oregon contain regulatory provisions and will help to reduce habitat loss and fragmentation in the best remaining greater sage-grouse habitat

11. How do federal land use plans function?

The BLM and USFS Land Use Plan revisions and amendments set goals for greater sage-grouse habitat management and conservation that apply to all BLM and USFS lands within the occupied range of greater sage-grouse. The plans provide a tiered management approach that offers higher levels of protection in the habitats with the highest density of sage-grouse, known as Priority Habitat Management Areas (PHMA), and seeks to minimize impacts in other occupied habitat known as General Habitat Management Areas (GHMA). In addition, BLM and USFS have designated Sagebrush Focal Areas (SFA) in priority habitats that represent important strongholds for greater sage-grouse. In these areas, federal land use plans eliminate new surface disturbance and prescribe a conservative management approach.

Within PHMA, federal plans reduce habitat fragmentation by establishing caps on surface disturbance and density, minimizing surface occupancy from energy development, identifying buffer distances around leks, directing wind and solar projects outside of priority habitat, and avoiding greater sage-grouse habitat in siting transmission corridors (with some exceptions). The plans set goals to improve habitat condition through required mitigation, and habitat improvement projects like conifer removal. BLM and USFS will incorporate management objectives for greater sage-grouse habitat and rangeland health standards for grazing permit renewals and permit modifications within greater sage-grouse habitat.

The plans also identify management actions intended to reduce the risk of rangeland fire by attacking the spread of cheatgrass and other invasive species, positioning wildfire management resources for more effective rangeland fire response, and restoring fire-impacted landscapes to native grasses and sagebrush. The plans include coordinated monitoring and evaluation of species and habitat changes and mitigation efforts and adaptive-management measures to ensure the overall conservation objectives identified in the plans are being met.

12. How have the states contributed to greater sage-grouse conservation?

States have primary management authority for all wildlife within their borders, with the exception of eagles, most migratory birds, and ESA-listed wildlife.

State plans are one of three principal elements of the greater sage-grouse conservation effort, along with federal land use plans and private conservation efforts. Where the BLM and USFS influence wildlife by managing habitat on federal land, and private landowners by managing habitat on private property, states manage wildlife regardless of property jurisdictions.

States in the greater sage-grouse range have actively participated in sage-grouse conservation since 1954, when the Western Association of Fish and Wildlife Agencies first began monitoring the abundance and distribution of the species across its range. WAFWA created the Management Zone framework under which greater sage-grouse populations are currently evaluated. Several of the foundational conservation plans that have guided sage-grouse management for the past 15 years were developed by WAFWA, including the 2004 Rangewide Conservation Assessment, the 2006 Greater Sage-Grouse Comprehensive Conservation Strategy and recent reports on wildfire and invasive plant management.

WAFWA estimates states have spent more than \$200 million on sage-grouse conservation in the past 15 years by investing in research and monitoring and pursuing management actions, including habitat protection through land purchases and conservation easements. Since 2010, states in greater sage-grouse range have updated or finalized conservation plans for the greater sage-grouse that complement federal land plans by implementing measures to conserve the species and its habitat on non-federal lands.

13. What are some examples of regulatory measures in state plans?

State sage-grouse plans in Wyoming, Montana and Oregon contain regulatory measures intended to minimize impacts from energy development, infrastructure and grazing. The Wyoming strategy has been in place since 2008 and has effectively minimized impacts within core habitats, protecting the highest density areas for the species within the state.

Since implementation of the Wyoming Core Area Strategy in 2008, the number of new nonrenewable energy wells in greater sage-grouse habitats declined by 80 percent. Our risk analysis confirms that the Wyoming Strategy, together with the federal land use plans, reduces the potential exposure of nonrenewable energy development to the breeding population by more than 35 percent in WAFWA Management Zone I (which includes northeast Wyoming, Montana and the Dakotas) and 60 percent in WAFWA Management Zone II (southern and western Wyoming, Colorado and northeast Utah). While some development will occur in the future, the Wyoming Core Area Strategy directs projects to areas that will minimize impacts, includes stipulations to minimize indirect effects, and if necessary, requires mitigation to benefit the species.

The Governor of Montana issued a second Executive Order putting into effect the Montana Sage Grouse Habitat Conservation Program and giving it full regulatory authority. This second Executive Order was preceded with a document that provided included a full review of State regulatory authority over activities in sage-grouse habitat in Montana. Accordingly, the principal mechanism for enforcing conservation measures and stipulations for a future activity on State or private land in sage-grouse country is through the existing authority of State agencies to review, approve, or authorize that activity. As such tThe Montana Plan is regulatory on State lands and on any private lands where State permits or authorizations are required.-It requires that State agencies adhere to the requirements and stipulations of the Program and to maintain consistency with the sequencing requirements and stipulations. The Montana Executive Order also created the Montana Sage-Grouse Oversight Team composed of State Agency Directors to oversee administration of the Montana Plan. Montana's state plan includes controlled surface use,

restrictions on density of development, seasonal and noise restrictions, [prohibitions on sagebrush eradication and conversion to cropland, new sage-grouse compatible grazing standards](#) and lek buffers.

[The Montana core area / EO approach closely parallels the Wyoming core area / sage-grouse EO approach, which has a multi-year implementation history. The Service has determined that the Wyoming core area strategy provides an excellent model for meaningful sage-grouse conservation, if fully supported and implemented.](#)

Comment [JB1]: In or out?

The Oregon Sage-Grouse Action Plan ensures regulatory protection and enhancement of sage-grouse and their habitat on State and private lands in Oregon. The plan, backed by new legislation and an Executive Order, establish explicit habitat and population goals with incremental completion dates. Similar to the Wyoming and Montana Plans, the Oregon Plan prioritizes avoidance with standards for mitigation of impacts if necessary and includes regulatory mechanisms, such as disturbance caps and adaptive management triggers, to reduce impacts to sage-grouse in the State. Unlike the Wyoming and Montana plans, Oregon addresses all sage-grouse habitats rather than using a core area strategy. Oregon's conservation plan applies to more than approximately 15 million acres of all landownership types.

The Oregon plan also address fire risk, which is a primary threat in the Great Basin. Fire and the fire/invasives cycle can impact large areas of sage-grouse habitat in very short periods of time, making prevention of wildfire important for minimizing effects. It identifies fire management measures, such as funding and logistical support for Rural Fire Protection Areas. This commitment improves the likelihood that fires will be effectively controlled to reduce the potential negative effects to sage-grouse habitat.

Many of the Oregon Plan measures are similar or complementary to those included in the Federal Plans. This aligned framework of tools, rules, and protocols across local, State, and Federal processes will ensure that coordinated mitigation and voluntary actions conserve the species across all land ownerships in Oregon. It also creates the transparency and credibility necessary for public support of the State's strategy.

In Utah, an Executive Order provides a regulatory mechanism to minimize potential effects from mining to sage-grouse habitat on State and private lands. The Utah Executive Order requires the Utah Division of Oil, Gas and Mining to coordinate with the Utah Division of Wildlife Resources before issuing permits for energy development. It also directs the Utah Division of Oil, Gas and Mining to implement recommendations provided by the Utah Division of Wildlife Resources that could require avoidance and minimization measures on State and private lands consistent with the conservation plan. These measures are subject to the statutory requirements to protect rights on private property and avoid waste of the mineral resource.

14. What other state actions are contributing to the conservation of the species?

Since 2010, states in greater sage-grouse range have drafted, finalized or implemented conservation plans for the greater sage-grouse. These plans take different approaches, but in general, they identify important conservation objectives and provide mechanisms to incentivize

conservation. Some include regulatory mechanisms that apply to state approvals or actions. We anticipate state plans and related efforts will continue into the future and will strengthen as they mature.

California

California does not have a State Sage-grouse Conservation Plan. California recognizes sage-grouse as a State-species of special concern that should be considered during the State's environmental review process. The California Environmental Quality Act (CEQA)(Public Resources Code sections 21000–21177) requires that State agencies, local governments, and special districts consider impacts to species of concern from their proposed project, including sage-grouse.

Colorado

Colorado has been a leader in greater sage-grouse conservation and research, working with numerous partners over the last several decades. This coordination spans from local and State levels, to rangewide participation. More than 200,000 acres of sage-grouse habitat has been protected through purchase and easements by Colorado Parks and Wildlife and the land trust community

The State conservation plan for greater sage-grouse has been implemented since 2008 over approximately 3,855,841 acres across all landownership types. The plan uses voluntary conservation strategies to address and promote the conservation of sage-grouse in Colorado. It provides guidance to address impacts to sage-grouse from habitat fragmentation and conversion, agriculture, urbanization, conifer encroachment, recreation, nonrenewable energy, and other impacts.

The plan and the State of Colorado recommend measures to help reduce impacts from nonrenewable energy development. Colorado regulations require that effects to sage-grouse are considered by the Colorado Oil and Gas Conservation Commission and the Colorado Department of Reclamation and Mining Safety during their permitting processes. In addition, Colorado Parks and Wildlife makes recommendations based on the State's conservation plan designed to reduce impacts to greater sage-grouse from nonrenewable energy development.

In May 2015, the State of Colorado issued an Executive Order (E.O. D 2015–004) in to promote the conservation of greater sage-grouse and further implement the 2008 conservation plan. This order enhances communication and coordination among State agencies, including CPW, the State Land Board, and COGCC, as well as designating a single point of contact for external greater sage-grouse communications. It also prioritizes the completion of the Colorado Habitat Exchange, a voluntary compensatory mitigation tool for impacts to the species.

Dakotas

North and South Dakota finalized state management plans that emphasized working cooperatively with private landowners due to the relatively large acreages of private lands in those states. Both states have provided assistance working through the Sage Grouse

Initiative under NRCS and are continuing sage-grouse research efforts to prioritize the best sage-steppe habitat for conservation, expand core areas and further their understanding of the impacts of West Nile virus. Both States have closed sage-grouse hunting seasons.

North Dakota completed its state conservation plan for sage-grouse in March 2015. North Dakota's plan applies to approximately 416,000 acres of all landownership types in the state. The plan would be entirely voluntary and its implementation would rely on partner-led efforts. North Dakota's plan focuses on the successful translocation of sage-grouse into the state to address isolated subpopulations and to slow a downward population trend.

South Dakota has provided additional firefighting resources and in the past has restricted off-road travel if drought conditions may elevate fire danger during hunting seasons. Further, the South Dakota Department of Game, Fish and Parks works with the South Dakota School and Public Lands Office, Public Utilities Commission, and the Department of Environment and Natural Resources to provide comments and input if oil and gas development, wind development, or other proposed projects may impact sage grouse core areas.

Idaho

In May 2015 Idaho Governor, C.L. "Butch" Otter signed an Executive Order adopting Idaho's Sage-grouse Management Plan, which focuses on the management of invasive vegetation, fuels and wildfire. The plan provides wildfire suppression guidance to complement Department of the Interior Order Number 3336, and commits the state to assist with fire rehabilitation and with implementation of fuel breaks, weed control and conifer removal in mixed state and federal ownerships.

Under the plan, Idaho assumes responsibility for development, coordination, equipping and training for Rangeland Fire Protection Associations to provide rapid response to sagebrush fires. In FY 2016 the Idaho legislature appropriated over \$500,000 to better support RFPA implementation and effectiveness.

Idaho also intends to reduce state ownership of key sage-grouse habitats through land exchanges with BLM to allow for more effective implementation of fire and invasive species controls.

Within Idaho, SGI has worked with private landowners to secure conservation easements on approximately 70,000 acres, implement grazing systems on 250,000 acres and remove invasive conifers on 50,000 acres. Since 2002, Idaho local working groups reported completing close to 400 sage-grouse projects, including fire restoration, fuel breaks, fence marking and removal, conifer removal, weed control and sagebrush planting.

Idaho also recently completed a plan aimed at sage-grouse conservation on 600,000 acres of state endowment lands. Approximately 1.4 million acres of endowment land in Idaho are rangelands, and nearly half of these endowment rangelands are important sage-grouse. The Idaho Plan Provides management direction, including regulatory mechanisms, for state lands managed by the Idaho Department of Lands.

Montana

Montana is one of three states that have adopted state sage-grouse conservation plans based around regulatory measures. (See above for a discussion of the plan and executive order).

Montana Fish, Wildlife and Parks has been active in sage-grouse conservation for many years. The state has spent \$4.8 million on sage grouse monitoring, research, and planning between 2000 and 2014. Since 1980, the agency has invested approximately \$25 million in conservation easements for more than 175,000 acres within sage grouse range. MFWP has also contracted with private landowners for 30-year sagebrush conservation leases covering almost 200,000 acres.

To further emphasize Montana's progress and commitment to sage-grouse conservation, Montana was successful in passing the Montana Sage-Grouse Stewardship Act during the 2015 legislative session. This Act ensures that critical funding and support are available for necessary sage-grouse conservation efforts in the future. This commitment is more than words: in addition to funding for staff resources, there is also a revolving conservation fund with an initial balance of \$10 million from the State of Montana.

Nevada

The State of Nevada has implemented several measures to conserve habitat in the State. The overarching objective of Nevada's plan is no net unmitigated loss of sage-grouse habitat due to new human-caused disturbances within sage grouse management areas in order to stop the decline of sage-grouse populations. The state's objective is to maintain the current quantity and quality of sage-grouse habitat at the state-wide level by protecting existing sage-grouse habitat.

In 2008, the Governor of Nevada signed an Executive Order that directs the Nevada Department of Wildlife to work with State and Federal agencies and the interested public to implement Nevada's conservation plan for sage-grouse. The Executive Order also directs other State agencies to coordinate with the NDOW in these efforts. Further, the Nevada Conservation Credit System establishes a mitigation market to facilitate exchanges between credit sellers and buyers.

In November 2012, the Governor signed a second Executive Order establishing the Sagebrush Ecosystem Council, a multiagency and multidiscipline group that was tasked with developing a conservation strategy for sage-grouse in Nevada. In October 2014, the Sagebrush Ecosystem Council finalized the Nevada Greater Sage-grouse Conservation Plan. The Nevada plan creates the Conservation Credit System, which creates financial incentives for private landowners to conserve sage-grouse habitat for use as compensatory mitigation. Nevada's plan requires that any development that affects greater sage-grouse habitat in Nevada will need to acquire credits to compensate for those effects before the development proceeds. In addition, on June 23, 2015, the Governor signed emergency regulations related to the formation of Rural Fire Protection Associations (RFPAs) within the State of Nevada (NRS 472 per AB 163, sec. 3.5(1) of the 78th Session of the Nevada legislature). RFPAs, as seen in other States, help support fire suppression efforts by adding capacity and resources for fire suppression.

Oregon

In 2012, the Oregon Sage-grouse Conservation Partnership, or SageCon, was convened at the request of the Governor's office to formulate an "all lands, all threats" approach to sage-grouse conservation. This effort was to provide regulatory assurances in advance of the Service's listing decision in 2015 and support long-term community sustainability in central and eastern Oregon. The primary goal of SageCon Partnership will be an amendment to the 2011 Oregon Sage-grouse plan to update the status of the species and its habitat conditions; identify conservation measures that have been implemented since 2010, and formulate new regulatory and voluntary programs to establish more predictability in the permitting process and ensure that mitigation dollars are invested in the highest value sage-grouse habitat.

Notably, more than 245,000 acres of conifer control has been implemented since 2010, on both private and public land, across more than 20 PACs. In addition, through a broad network of CCA and CCAAs, hundreds of landowners have committed over 2 million acres of sage-grouse habitat to conservation plans.

Washington

The greater sage-grouse is protected as a threatened species under Washington statutes and the state has been conserving the bird under a state plan first developed by the Washington Department of Fish and Wildlife in 2004. The plan identified a recovery goal of average breeding season populations of at least 3,200 birds for a period of 10 years, with active lek complexes in six or more sage-grouse management units. To meet this goal, WDFW, the Army and the Yakama Nation have been reintroducing sage-grouse to Lincoln County and the Yakama Nation and augmenting the population of sage-grouse within Department of Defense lands for eight years. The state is developing a Candidate Conservation Agreement with Assurances for private landowners and state wildlife areas within central Washington to minimize or remove threats to sage-grouse associated with agriculture and grazing.

Wyoming

Wyoming has been a leader in sage-grouse conservation and was one of the first states in the greater sage-grouse range to have a conservation plan supported by the Service. One of the most important elements of Wyoming's approach was the creation of the Sage Grouse Implementation Team, which includes representatives of state and federal agencies, non-governmental organizations and industries. The team makes recommendations to the Governor for continued conservation of greater sage-grouse through the executive orders. The latest executive order was signed by Governor Mead on July 29, 2015.

The State of Wyoming's Core Population Areas include the most productive populations and habitat that meet all life history requirements for the species. The Wyoming Strategy is based on avoiding impacts that would deter sage-grouse utilization. The key component of the Wyoming Strategy is the application of state regulatory measures on all 15 million acres of sage-grouse habitat in Wyoming. Any project requiring a state permit must meet the conditions of the strategy regardless of land ownership. The federal plans in the state incorporate the Wyoming

strategy, thereby ensuring implementation of the strategy on federal land surfaces and subsurface regardless of the need for a state permit.

Utah

Utah issued a final conservation plan for the sage-grouse on February 14, 2013, and mandated its implementation on February 25, 2015 by Executive Order. Utah's Plan and Executive Order includes mechanisms aimed at addressing threats to sage-grouse associated with fire, invasive species, predation, conifer encroachment, recreation, energy development, and the removal of sagebrush. The Utah Plan applies to all lands within the State's 11 Sage-Grouse Management Areas across approximately 7.5 million acres, which conserves 90 percent of the State's greater sage-grouse habitat and approximately 94 percent of the population. Many of the conservation measures in the plan are voluntary and rely on negotiated incentive-based covenants, easements, or leases to achieve conservation on private lands, School and Institutional Trust Administration Lands, and local government lands. In 2014, Utah's incentive-based approach, coupled with efforts from State, Federal, and private partners, exceeded the Utah conservation plan objectives, reporting 249,170 acres of habitat enhancement and restoration (Utah Department of Natural Resources).

The Utah Plan addresses fire control, suppression, and rehabilitation by providing an organizational framework for partners to prioritize suppression efforts and fire rehabilitation, and leverage funding and agency resources. The Utah Governor's Executive Order also directs the Utah Division of Forestry, Fire and State Lands to prioritize fuels-mitigation activities and pre-attack planning and coordination with other Federal and local fire suppression partners, second only to the protection of human life and structures. Utah's 2013 Catastrophic Wildfire Reduction Strategy established a statewide steering committee and regional working groups to develop a statewide risk map that will include prioritized sage-grouse habitat areas

15. What role have private landowners played in greater sage-grouse conservation efforts?

With young greater sage-grouse dependent on wet meadows and habitat adjacent to wetlands often found on private ranches, conservation of habitat on private lands is an important part of the all-lands strategy for this species. Since 2010, SGI, the Service and numerous other partners have targeted the best privately owned greater sage-grouse habitat for enrollment in voluntary conservation programs. Through 2015, SGI and its partners have invested \$425 million in private-land conservation, enrolling more than 1,120 ranches and more than 4.4 million acres in programs that manage habitat for the benefit of greater sage-grouse, including 1.4 million acres of conservation easements that eliminate the risk of development. The U.S. Department of Agriculture has committed another \$211 million to SGI, with a goal of protecting 8 million acres of sage-grouse habitat by 2018.

The Service's Partners for Fish and Wildlife (PFW) program has also engaged private landowners in a variety of voluntary conservation efforts to restore and enhance upland, wet meadow and riparian habitat for the benefit of the species. The primary mechanism used by PFW is a private landowner agreement: a voluntary, 10-year agreement between the Service and a landowner. Since 2000, PFW has contributed \$22 million toward private lands projects valued at

nearly \$43 million that implemented on-the-ground habitat restoration to support the recovery of greater sage-grouse and keep landowners on the land.

A third way to conserve private lands habitat is through the Service's Candidate Conservation Agreement program. This is a voluntary program that allows landowners to enter an agreement with the Service for 30 years, during which time the landowner commits to forgoing development that would pose a threat to sage-grouse and implementing habitat programs in exchange for the Service's assurance that in the event of an ESA listing, no additional regulatory measures would be required. The program contains provisions for both private lands owners in the form of candidate conservation agreements with assurances (CCAAs) and public lands agencies in the form of candidate conservation agreements (CCAs).

In Oregon, private landowners who control more than 2 million acres of greater sage-grouse habitat have enrolled or signed letters of intent with the Service to enroll in CCAAs. Private landowners have also worked with the BLM to commit 2.1 million acres of public grazing allotments to CCAs extending their private-land stewardship to public lands.

In Wyoming, 445,343 acres of private land have been enrolled in CCAAs and another 854,580 acres of associated grazing BLM allotments have been enrolled in CCAs. These agreements conserve sage-grouse habitats and maintain the open spaces these birds, and other sagebrush obligates, require.

These private-land programs have complemented state and federal plans in extending sage-grouse conservation across the landscape.

16. How has the Service's view of the impact of oil and gas development in greater sage-grouse habitat changed since 2010?

Nonrenewable energy resources are the largest source of energy worldwide and demand for these resources could increase by up to 1.3 percent annually in the United States and 50 percent worldwide by the year 2030. The Energy Policy and Conservation Act and its amendments mandate that the United States increase its domestic energy development. Therefore, oil and gas development is likely to continue throughout the greater sage-grouse range into the future, although its form and extent across the landscape may change.

For this status review, the Service mapped locations of the highest potential for oil and gas development in Montana, the Dakotas, Wyoming, Colorado and northeastern Utah to quantify potential exposure of greater sage-grouse to risk of future development. Other regions were not evaluated because of the relatively low potential for oil and gas development makes it unlikely impacts will have an effect at the species level.

The Service's analyses indicate that the federal land use plans and the Wyoming Core Area Strategy are reducing exposure of the species to nonrenewable energy, as measured by the portions of the breeding population and breeding habitat. Regulatory mechanisms reduce the risk of nonrenewable energy exposure to the breeding population and breeding habitat by more than

35 percent in Montana, Wyoming's Powder River Basin and the Dakotas, and more than 60 percent in the rest of Wyoming and adjacent portions of Colorado and Utah.

17. How has the Service's view of the impact of infrastructure development in greater sage-grouse habitat changed since 2010?

Expanding human settlement in the western United States has led to an increase in demand for infrastructure to support development. Roads, railroads, power lines, communication towers, wind turbines and fences result in habitat loss and fragmentation, and can cause greater sage-grouse to avoid otherwise suitable habitat. Infrastructure can also facilitate the spread of invasive plants, increase fire risk, and provide food, water and perches for predators, which may increase densities of ravens, foxes, skunks and other predators.

Since 2010, a number of landscape-scale efforts have been undertaken to reduce impacts from existing and future infrastructure to greater sage-grouse across the range. Those efforts include federal land use plan amendments, state sage-grouse plans, SGI projects and CCAs.

In PHMA, federal land use plans are designed to avoid or minimize infrastructure development, with limited exceptions for new transmission rights-of-way. They also include seasonal timing restrictions, noise restrictions, buffer distances from leks, and required design features to minimize infrastructure impacts on greater sage-grouse. State sage-grouse plans in Wyoming, Montana, Oregon and Utah contain regulatory measures intended to minimize impacts from infrastructure on state lands and, in some instances, on private lands.

18. How has the Service's view of the impact of grazing in greater sage-grouse habitat changed since 2010?

The Service's views regarding grazing as a potential threat have not changed since 2010. Livestock grazing remains the most widespread land use in the sagebrush ecosystem. In 2010, we concluded that improper grazing (by domestic livestock and free-roaming horses and burros) was likely having negative impacts to sagebrush and greater sage-grouse at local scales. However, the Service did not find that this was a principal factor affecting the status of the species. Livestock grazing may positively or negatively affect the structure and composition of greater sage-grouse habitat, depending on the intensity and timing of grazing, and local climatic and ecological conditions.

Properly-managed grazing may benefit greater sage-grouse by maintaining perennial vegetation that provides important food and cover for greater sage-grouse and by helping to control invasive annual grasses and woody plant encroachment. Alternatively, improperly-managed grazing can reduce protective vegetative cover, may make nesting and brood-rearing habitats less suitable for greater sage-grouse and provide a vector for the spread of invasive grasses. Livestock can also trample or disturb nests and cause nesting females to flush, revealing the nest and its eggs to predators, such as ravens.

The BLM and USFS collectively manage more than 98 percent of the livestock grazing on federal lands. The new federal land use plans represent a major shift in grazing management.

Specific guidelines have been developed for greater sage-grouse habitat to maintain or achieve desired conditions of sagebrush, forbs, and perennial grasses. Management techniques include evaluating numbers and distribution of livestock, evaluating environmental conditions such as drought, closing or changing allotments, managing riparian habitat for greater sage-grouse, and authorizing water developments only if they would not adversely impact greater sage-grouse. The federal land use plans also include monitoring requirements and adaptive management that will ensure that the measures will be effective for the long term and that grazing occurs at proper levels for greater sage-grouse conservation.

While the Service's view that grazing is not a primary threat to the species has not changed since 2010, new range health measures in federal plans will likely improve habitat conditions across the range.

19. How has the Service's view of the impact of free-roaming equids in greater sage-grouse habitat changed since 2010?

Domestic horses and burros were first brought to western North America by European explorers and traders in the late 16th century. Over time, free-roaming populations were formed by animals that escaped captivity or were released. Since passage of the Wild Free-Roaming Horses and Burros Act of 1971, herd numbers have risen and fallen dramatically. Currently, the BLM and USFS estimate about 65,000 horses and burros roam on federally administered rangelands in 10 western states, roughly double the estimates of the amount the land is estimated to be able to support. An undetermined number roam tribal lands.

Because of physiological differences, a horse forages longer and consumes 20 to 65 percent more forage than a domestic cow of equivalent body mass. Horses and burros crop vegetation closer to the ground than cattle or big game, potentially reducing cover for greater sage-grouse and limiting or delaying recovery of plants. Horses and cattle use the landscape differently, increasing the area impacted by grazing when both are present.

Management of herds by federal agencies is an ongoing challenge. Free-roaming horse and burro populations grow rapidly, and in most areas, they have no natural predators. Gathering and removing horses and burros for adoption, or sale is expensive and highly controversial.

New federal land use plans address free-roaming equids' impacts by focusing management efforts in areas most important for greater sage-grouse conservation. If needed to meet range health and greater sage-grouse objectives, the plans allow for "gathers" and other population control techniques in priority habitat areas. Additionally, if needed, free-roaming equids would be removed or excluded from areas following emergencies, such as wildfire or drought.

Implementation of all or some of the measures outlined in the plans will reduce impacts in the most important areas for greater sage-grouse. Nevertheless, some localized degradation of habitat will likely continue, particularly in Nevada, as these measures take effect.

20. How has the Service's view of the impact of invasive species and fire in greater sage-grouse habitat changed since 2010?

Wildfire is the principal natural disturbance in the sagebrush ecosystem. Pre-settlement, sagebrush systems likely experienced long interludes with numerous small fires that accounted for little burned area, punctuated by large fire events that consumed large expanses. Since the mid- to late 1800s, human activities have changed the vegetation composition and structure of the sagebrush ecosystem that has subsequently altered the fire regime. Non-native invasive annual grasses such as cheatgrass fuel destructive wildfires in greater sage-grouse range and represent a significant threat to the long-term conservation of greater sage-grouse and its habitat, particularly in the Great Basin. Fires occurring within the range of greater sage-grouse can cause direct loss of habitat, resulting in loss of breeding, foraging and sheltering opportunities for the species. In addition to the direct habitat loss, fire can also create large areas devoid of sagebrush habitat that serve as functional barriers to greater sage-grouse movements and dispersal.

Since 2010, the wildland fire management community has made strides in addressing wildfire and its effects on habitat fragmentation in greater sage-grouse range, as well as the interactions between wildfire and invasive plants. The federal land use plans contain multiple measures to address wildfire and its effects on greater sage-grouse and sagebrush habitat. While human health and safety remains the highest priority in wildland fire management, a suite of efforts such as the revised/amended federal land use plans and the associated Fire and Invasives Assessment Tool (FIAT); Secretarial Order 3336 (Rangeland Fire Prevention, Management and Restoration); and, other, related efforts represent a marked shift by the fire management community toward a more holistic approach to identifying, prioritizing and managing impacts from wildfire in greater sage-grouse habitat.

Wildfire managers are focusing their operations on protecting greater sage-grouse and sagebrush habitat. Sagebrush habitats are also now given priority consideration in the treatment of fuels and the rehabilitation of burned areas, after the protection of human health and safety, including the safety of firefighters. The continued long-term implementation of these wildfire management strategies, particularly in important greater sage-grouse habitats, reduces the risk of fire and invasive species in the Great Basin and rangewide.

Nonetheless, controlling both invasive grasses and rangeland fires must remain a primary focus of our collective conservation efforts.

21. What does the future hold for greater sage-grouse conservation following this decision?

The Service's not-warranted finding for greater sage-grouse is an important milestone in an ongoing, rangewide campaign to conserve the species and the larger landscape on which it and many other species depend. Greater sage-grouse will still require intensive, conservative management into the future. An ongoing and concerted effort by all partners – public and private – is needed to maintain and advance conservation measures, and control impacts to the bird and its habitat.

Federal land use plans contain specific, measurable actions to reduce disturbance that affects greater sage-grouse and its habitat. These plans also include monitoring and adaptive management programs that will enable managers to track and quickly adjust plans in response to

biological feedback mechanisms. The federal land use plans will be implemented for 20 to 30 years, ensuring these conservation efforts will continue into the future.

The Service anticipates state plans and related efforts will strengthen as they mature, especially in states such as Wyoming that adopt regulatory elements. Private lands work, such as the Sage Grouse Initiative, Candidate Conservation and Partners for Fish and Wildlife will continue to recruit new landowners into sagebrush management and restoration programs.

It is important to recognize that the meaningful conservation measures described in our finding – and robust monitoring and adaptive management programs associated with those measures – must continue into the future if we are to avoid continued decline of the species and a potential future listing under the ESA for greater sage-grouse or other at-risk, sagebrush-dependent species. The Service will remain an active partner in sagebrush conservation and will continue to invest in new science, management techniques, technical assistance for partners and in private lands programs to help landowners conserve habitat on their own land. Continued, dedicated funding for all aspects of greater sage-grouse and sagebrush conservation is a critical component of successful future conservation efforts.

22. What can landowners do to conserve the species?

Despite the Service's not warranted determination, the hard work must continue in order to restore sagebrush ecosystems and reverse the long-term decline of greater sage-grouse. For those private landowners wanting to contribute to the recovery of greater sage-grouse there are numerous programs available within the Service and through other agencies and organizations.

Greater sage-grouse use both public and private lands during their annual lifecycle, with private lands becoming extremely important during the summer brooding season, when females rear chicks to adulthood. During the past five years, a great deal of private lands conservation has helped to stem the loss of sagebrush habitat across the range. The Service will continue to provide assistance to private landowners, and continue enroll them in Candidate Conservation Agreements with Assurances.

The Service will continue to provide financial and technical assistance to landowners seeking to conserve listed species on their private land through its Partners for Fish and Wildlife Program. See <http://www.fws.gov/partners/aboutus.html>) for further information.

Landowners within greater sage-grouse priority areas for conservation can participate in the Sage Grouse Initiative, and receive financial assistance for entering into contracts or easements to ensure that conservation practices are applied according to schedule and in compliance with NRCS standards and specifications. See <http://www.sagegrouseinitiative.com/> for more information.

For more information on these tools, see <http://www.fws.gov/endangered/landowners/landowner-tools.html>.

23. How was the Service's decision impacted by language in the 2014 appropriations law?

On May 10, 2011, we filed a multiyear work plan as part of a settlement agreement with Wild Earth Guardians and others in a consolidated case in the U.S. District Court for the District of Columbia. The settlement included a schedule to publish proposed rules or not-warranted findings for 251 species designated as candidates as of 2010. The work plan included a deadline to resolve the greater sage-grouse's "candidate" designation by September 30, 2015 by either proposing to list the species as threatened or endangered or remove the species from the "Candidate List," an action already required by the ESA. The settlement did not commit the Service to any specific determination.

In December 2014, Congress passed the Omnibus Appropriations Bill, which included language precluding the Service from spending appropriated funds on a proposed listing rule for greater sage-grouse or a Columbia Basin distinct population segment. As a result, during this status review, the Service has considered only whether the species still warranted ESA protection. The rider did not impact our ability to decide whether listing was warranted or not, nor affect our ability to develop, implement and analyze conservation efforts to support the species, nor prevent the Service from publishing this finding consistent with the court deadline.

24. Why did the Service decide the Columbia Basin population is not a Distinct Population Segment?

The Service evaluated multiple factors and found that the population in the Columbia Basin, while geographically separate, is not biologically significant to greater sage-grouse rangewide and is therefore not a Distinct Population Segment.

In 2001, in response to a petition to list sage-grouse in Washington State, we concluded that the Columbia Basin was a valid DPS of the western subspecies of sage-grouse and that this population warranted the protections of the ESA. Due to higher priorities, it was placed on the list of candidate species. Since 2001, new genetic analyses, along with behavioral and morphological data, now suggest that the western subspecies of sage-grouse is not a valid taxon.

In our current evaluation we looked at the population's significance across the 11-state greater sage-grouse range, rather than in just the western portion of the range. We found that the sage-grouse populations in the Columbia Basin continue to be separated from other populations by at least 155 miles. However, translocations of sage-grouse from outside of the Columbia Basin, which began in 2004, have provided genetic exchange between the Columbia Basin and other populations. The connectivity provided by human intervention complicates undermines confidence regarding the Columbia Basin population's discreteness.

In reevaluating the significance of the population we found that the Columbia Basin did not occur in a unique ecological or unusual ecological setting, as sage-grouse are fairly adaptable to a broad range of sagebrush communities throughout western North America. We also found that the loss of the population would not likely result in a significant gap in the range of the species.

Finally, while genetic diversity in the Columbia Basin is low, the best available information does not suggest that the population is markedly different from other populations in its genetic makeup.

25. Where can I obtain more information related to the listing?

For more information about the greater sage-grouse, the final listing and critical habitat decisions, visit the Service's web site at <http://www.fws.gov/greaterSageGrouse/>.