

**Presentation of Edward D. Koch,**  
**State Supervisor**  
**Nevada Fish & Wildlife Office, Reno**  
**Before the**  
**Nevada Legislative Committee on Public Lands**  
**January 27, 2012**

Good afternoon Madam Chairman and members of the Committee. My name is Ted Koch. I am the State Supervisor for the U. S. Fish and Wildlife Service (Service) in the State of Nevada. Thank you for the opportunity to be here to share our interest in keeping healthy sagebrush ecosystems in the Sagebrush State and in conserving the iconic greater sage-grouse.

I would especially like to thank Ken Mayer with the Nevada Department of Wildlife, Jeanne Higgins with the U. S. Forest Service, Amy Leuders with the Bureau of Land Management and Bruce Peterson with the Natural Resources Conservation Service for their extensive leadership to conserve sage-grouse and sage-grouse habitat.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve species and habitats. We are the federal agency with the responsibility under the Endangered Species Act to determine if the sage-grouse needs the protection of federal law. We are on track to make the decision whether to propose protection for the Nevada/California “bi-state” population by September, 2013. We will also decide whether or not to propose federal protection for the greater sage-grouse throughout the remainder of its range in 11 western states by September, 2015.

The Service also has many non-regulatory roles in sage-grouse conservation. We have National Wildlife Refuges which provide important habitat for the greater sage-grouse. We have grant programs to help fund conservation work on private and Tribal lands. And, we offer to our

partners and others expertise in sage-grouse conservation that can be used to proactively conserve the species.

In Nevada, the major threat to sage-grouse is habitat loss and fragmentation and that the main cause is the “fire-invasive species” cycle, or more simply put, cheatgrass that displaces sage habitat after a fire. Other major threats include encroachment of pinyon pine and juniper, land development, lek and nest habitat disturbance, meadow degradation, grazing, and predators.

Sage-grouse must have sage habitat, and there is no better place to provide that habitat than in the Sagebrush State. That’s why we must – and we will - expand our support for local and state conservation efforts. We talk to many people who work on the ground in Nevada who want to be part of the solution.

We believe restoring sage-grouse habitat is good for ranchers, state and federal land managers, outdoor recreationists, and all people who love our environment. The healthier our sagebrush ecosystems, the wealthier wildlife and people will be. The hardest part is that addressing this may be difficult in just a few years. Because habitat impacts have occurred over the last century or more, it will be hard to turn things around quickly.

The Service’s experience is that by working together, we can make a difference in conserving sage-grouse. We must strategically focus with partners on the efforts that will make the most difference and implement those efforts.

Because the greater sage-grouse is now a candidate species, the U.S. Fish and Wildlife Service, the Bureau of Land Management and other federal partners have programs to provide technical and financial assistance for the conservation of the candidate species on private lands. For example, the Natural Resources Conservation Service is implementing a significant initiative to assist private landowners in implementing greater sage-grouse conservation. The Forest Service is also playing a large role, and many Tribes can support this process as well. In

addition, we strongly support NDOW, BLM, and private land owners with conservation measures that reduce habitat fragmentation and thereby promote the long-term conservation and recovery of the greater sage-grouse.

The Service will do all we can do on National Wildlife Refuges. We will use our funds and expertise where they can be most valuable. Finally, we will be clear and consistent on the actions needed to conserve the sage grouse and its habitat.

We look forward to being a partner with all who are interested in the conservation of sage grouse and the sagebrush ecosystems upon which they depend.

# Greater Sage-Grouse Biology & Status

January 2012

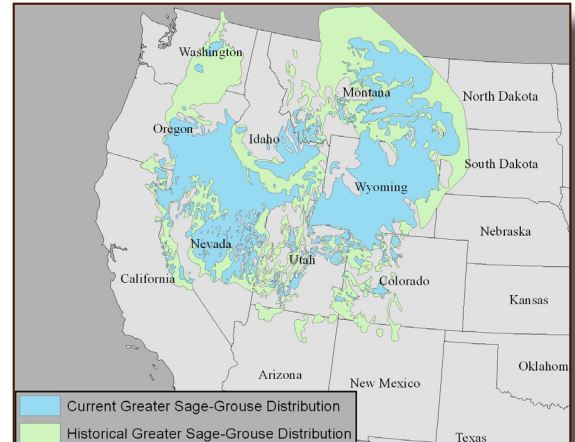
## Nevada Fish and Wildlife Office

Conserving the natural biological diversity of the Great Basin, eastern Sierra, and Mojave Desert



Male greater sage-grouse. Photo: Steven Ting

Greater sage-grouse occur in Washington, Oregon, Idaho, Montana, North Dakota, South Dakota, Wyoming, Colorado, Utah, Nevada, California and the Canadian provinces of Alberta and Saskatchewan. Greater sage-grouse occupy approximately 56% of their historical range



### Life History

Greater sage-grouse, commonly referred to as sage-grouse, sage hen, sage fowl, sage cock, or sage chicken, is a large, ground-dwelling bird, up to 30 inches long and two feet tall, weighing from two to seven pounds. It has a long pointed tail with legs feathered to the base of the toes. Females are mottled brown, black, and white which serves as camouflage from predators. Males are larger and more colorful than females with white feathers around the neck and bright yellow air sacs on their breast, which they inflate during their mating display.

The birds occur at elevations ranging from 4,000, to over 9,000 feet and are dependent on sagebrush for cover and food. Greater sage-grouse typically have a short life span; however they may live nearly a decade.

During the breeding season, male greater sage-grouse gather together and perform courtship displays in areas called leks (also known as "strutting grounds"), which are relatively open sites surrounded by denser sagebrush. Leks, which may be as large as a football field, are used for many

generations by greater sage-grouse.

Males defend individual territories within leks by strutting with tails fanned and emitting drumming sounds from the air sacs on their chests to attract females. The mating season generally begins in March but may vary depending on weather conditions. Females lay a clutch of six to nine eggs from mid-March to mid-May. Greater sage-grouse hens raise one brood in a season.

One of the most interesting aspects about the greater sage-grouse is its nearly complete reliance on sagebrush. Throughout much of the year adult greater sage-grouse rely on sagebrush to provide roosting, cover, and food. Sagebrush provides cover for nesting and associated plants host high-protein insects, a vital food source for chicks in their first month of life. In winter, over 99 percent of greater sage-grouse diet is sagebrush leaves and buds.

### Threats

Habitat loss and fragmentation are the greatest challenges to

greater sage-grouse conservation. They cannot survive in areas where sagebrush no longer exists. The distribution of greater sage-grouse has contracted from historical times, most notably along the northern and northwestern periphery and in the center of their range due to loss of sagebrush habitat.

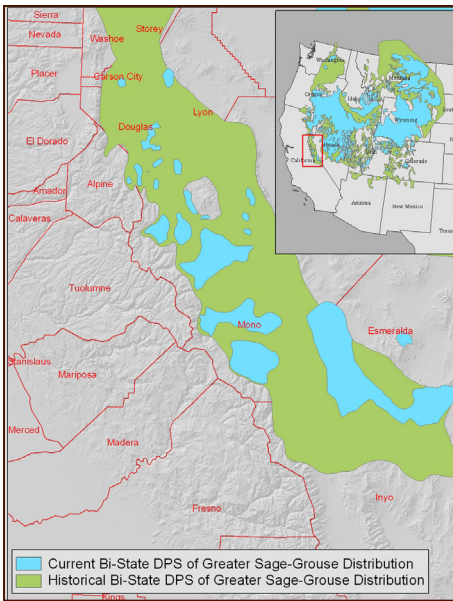
A sagebrush community may take years to recover from disturbance. Impacts can result from direct habitat loss or fragmentation of important habitats by energy development, powerlines, pipelines, and roads, or other man-made structures. Other important factors in the species' decline include wildfire and invasion by native and non-native plant species.

### Species Conservation

Conservation efforts have expanded throughout Nevada. Federal and state agencies as well as many private landowners are incorporating and considering greater sage-grouse conservation measures in current and future land management activities. To be effective, these conservation actions require addressing immediate and long-term threats to the species.

## Listing Status

In March 2010, the U. S. Fish and Wildlife Service (Service) determined that the greater sage-grouse warranted protection under the Endangered Species Act (ESA); however, listing at that time was precluded by higher priority actions. This decision placed the greater sage-grouse on the candidate species list in 11 western states, including a Bi-State Distinct Population Segment (DPS) of greater sage-grouse in west-central Nevada and east-central California.



Candidate species are assigned a listing priority number from one to 12 based on the magnitude of threats they face, the immediacy of the threats, and their taxonomic uniqueness (for example, full species have higher priority than subspecies). The species' listing priority number dictates the relative order in which proposed listing rules are prepared, with the species at greatest risk (listing priority one through three) being proposed first. The listing priority number assigned to the Bi-State DPS of greater sage-grouse is three and the listing priority number assigned to the wider ranging greater sage-grouse is eight.

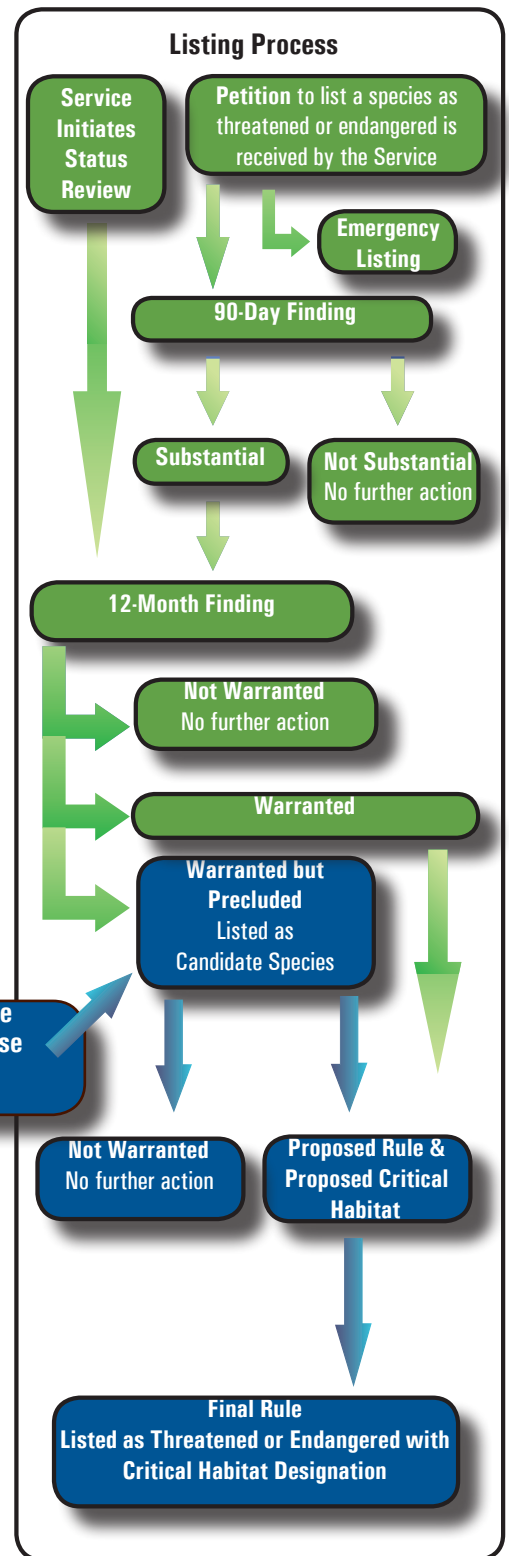
Although the greater sage-grouse is afforded no protection under the ESA as a candidate species, adding it to the candidate list

allows the Service and other agencies an opportunity to work cooperatively with landowners to conserve the species. Financial assistance is available through multiple federal agencies including various Service grants and agreements.

## Next Steps

In an effort to improve implementation of the ESA, the Service will systematically review and address the needs of more than 250 candidate species over the next six years. A multi-year listing work plan, first developed through an agreement with the plaintiff group WildEarth Guardians, was filed in the U.S. District Court for the District of Columbia in May 2011. In July 2011, the Service reached an agreement with the plaintiff group Center for Biological Diversity that reinforced this multi-year work plan. These historical agreements were approved by Judge Emmet Sullivan on September 9, 2011.

As part of that agreement, the Service committed to complete the review of the Bi-State DPS of greater sage-grouse by 2013 and the wider ranging greater sage-grouse by 2015.



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# Conserving Greater Sage-Grouse

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Conserving the natural biological diversity of the Great Basin, eastern Sierra, and Mojave Desert



## What are the threats to greater sage-grouse?

### Habitat Loss and Fragmentation



Habitat loss and fragmentation caused by pinyon and juniper encroachment

Habitat loss and fragmentation are the primary causes of greater sage-grouse population declines. They result from natural processes which may include, wildfires, invasion by non-native plants, or pinyon and juniper forest expansion or man-made activities such as energy development, construction of powerlines, roads, fences, and other physical infrastructure.

Greater sage-grouse cannot survive in areas where sagebrush does not exist. Sagebrush not only provides cover for greater sage-grouse, it constitutes 99 percent of their winter diet.

### Wildfire and Invasive Plant Species

The interaction between wildfire and invasive plant species represents the single largest threat to greater sage-grouse in Nevada. Over the past decade more than three million acres of sagebrush habitat in Nevada has been impacted by wildfire, representing a loss of nearly 15 percent of available greater sage-grouse habitat. Burned area rehabilitation requires many years and can be further complicated by invasive nonnative species such as cheatgrass. Unfortunately,

rehabilitation efforts continue to be surpassed by the wildfire frequency and expanse in Nevada.

### Pinyon and Juniper Encroachment

Pinyon and juniper forests have been encroaching into key greater sage-grouse habitat at a rapid rate. Forest expansion removes available sagebrush habitat and creates barriers, fragmenting important greater sage-grouse habitats. In addition, these trees provide artificial roosting and nesting sites for greater sage-grouse predators.

### Development

Conversion of sagebrush habitats to industrial uses or any non sagebrush ecosystem condition removes these areas from greater sage-grouse use. Placement of energy and mineral developments in otherwise intact sagebrush communities can hinder movement of greater sage-grouse, ultimately leading to isolation of populations from each other or from important habitats.

Powerlines, roads, fences and other features that support human developments can alter the quality and use of sagebrush habitats by the species. These structures can lead to direct mortality. In addition, they facilitate the occurrence of predators and invasive species and act to fragment intact sagebrush habitats by creating both physical and behavioral barriers to greater sage-grouse movements.

### Lek and Nesting Habitat Disturbance

Greater sage-grouse courtship

begins on traditional strutting grounds (leks), where birds congregate to display and breed. Leks are typically used for many generations and represent the focal point for reproduction. However, successful reproduction depends on maintenance of surrounding nesting habitat. Degradation of these sagebrush sites can lead to reproductive failure of populations.

### Meadow Degradation

Upland meadows and riparian habitats provide vital food sources for greater sage-grouse chicks and adults during the spring and summer. Degradation and loss of these limited habitats can have a significant influence on overall population health.

### Grazing

Grazing by native wildlife, feral horses, and livestock can influence the quality of sagebrush and meadow habitats. Changes to soil properties, loss of understory grasses and forbs, and degradation of sagebrush plants can present significant challenges to nesting success and chick recruitment in greater sage-grouse populations.

### Predators

Greater sage-grouse are eaten by a variety of predator species. Species, such as common ravens, have increased dramatically in the Great Basin due to human activity. Their increased presence on the landscape can significantly alter the ability of greater sage-grouse hens to successfully raise young. Degradation of nesting habitat can greatly compound the degree of impact ravens and other predators exert.

# Achieving Greater Sage-Grouse Conservation



**Steven Fulstone** removes pinyon and juniper to restore greater sage-grouse habitat on his land.

Protecting key seasonal habitats for greater sage-grouse by reducing or removing the threats is essential for healthy sustained populations. If key areas are conserved, greater sage-grouse will likely be conserved, and populations should stabilize and increase.

## Preventing Wildfire and Invasive Species Establishment

Sagebrush plant communities should be conserved where they currently exist. Fire suppression and prevention efforts should be targeted in intact sagebrush communities. In areas impacted by wildfire, sagebrush communities should be immediately reestablished with mixes of native shrub and herbaceous species to prevent cheatgrass and other weeds from invading.

## Reducing Pinyon and Juniper Encroachment

Removing pinyon and juniper or other conifers that are invading greater sage-grouse habitat should be accomplished with measures that minimize ground disturbance and be supplemented with reseedling efforts, as needed.

## Avoiding Development Impacts

Proper placement of industrial developments, including their associated infrastructure, is critical to limiting further loss

and fragmentation of key greater sage-grouse habitats. Appropriate information must be evaluated and greater sage-grouse needs should be considered before developments occur.

## Protecting Leks and Nesting Habitat

Conservation of important breeding habitat is essential for successful reproduction and



population stability. Development and disturbance through and around leks and surrounding nesting habitat should be avoided. This includes building fences and other infrastructures that may impact greater sage-grouse as they move to and from leks and may provide artificial roosting and nesting sites for predators.

## Restoring Meadows

Areas that maintain moisture longer than surrounding uplands are important to greater sage-grouse broods as well as adults. These areas provide large quantities of food in spring and summer. Restoring these important sites will ensure forbs and insects are available for greater sage-grouse brood rearing.

Forb species with milky juice such as hawksbeard, milkvetch,

dandelion, and western yarrow should be considered for range seeding and will provide spring and summer forage for greater sage-grouse. These forbs also host insects which are a high source of protein critical to greater sage-grouse chicks during the first month of life.

## Managing Grazing

Proper grazing management is critical to prevent long-term degradation of sagebrush habitats. Conserving the resiliency and preventing the degradation of sagebrush and meadow communities is essential to conserving the health of greater sage-grouse populations.



**Nest and female greater sage-grouse**

Photos: A Sands and G Gray

## Discouraging Predators

Ravens should be discouraged by preventing access to human or livestock waste. Other predators can be discouraged by removing unused culverts and outbuilding that attract badgers, foxes, and coyotes. Domestic dogs and cats should not be allowed to become feral.

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