

# *Sage Grouse*



**A PART OF IDAHO'S  
HIGH DESERT HERITAGE**

**IDAHO DEPARTMENT OF FISH & GAME  
UPLAND GAME PROGRAM**



# Sage Grouse



Gary Will

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*“Legions of leagues are covered with a wild growth of sage, that seems designed by nature for nothing else than to feed a certain variety of feathered family known as sagecocks.”*

From the journal of M. Field, 1857

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No other bird better symbolizes Idaho’s high desert country than the sage grouse.

Tough enough to withstand soaring summer temperatures and icy winter blasts, sage grouse are a perfect fit for the plateaus and rounded hills of southern Idaho.

They were a staple of the Native American’s diet. Dances, costumes and celebrations honored the bird’s contribution to their society. The Native Americans revered sage grouse more than the eagle. Lewis and Clark noted the birds in their journey west in 1804. They were an important food source for pioneers over the next half century.

Yet Idaho’s sage grouse are in trouble. Populations of the bird are plummeting in the state, as wildfire, agricultural expansion, herbicides, prescribed fire, grazing, and rangeland

seedings have nibbled away at its habitat. In some areas of the state, up to 80 percent of the habitat vital to these birds has been destroyed. Little wonder that the bird, a native to Idaho, has disappeared in some places where it previously was common.

Sage grouse are a species at a crossroads. Unless steps are taken now to restore and improve habitat, sage grouse may be doomed throughout much of Idaho.

## **PLOPPING AND STRUTTING**

Sage grouse (*Centrocercus urophasianus*) are a large upland game bird that once were abundant in the sagebrush habitat of the western United States and Canada.

Males weigh 4 to 7 pounds and have a distinctive white and black neck band. Females are smaller,

in the 2 to 4 pound range. Sage grouse are mostly a dusky, grayish-brown in color — perfect for blending in with the backdrop of the high desert. Males waddle as they walk, no doubt due in part to their size. Hens walk evenly and lightly.

During the spring, males gather at traditional breeding areas, called “leks,” or strutting grounds, for elaborate mating rituals. Leks are usually open areas such as meadows, low sagebrush, or even roads surrounded by sagebrush. Their mating display is one of the most complex of any grouse. Males spread their plumage, strut, and inflate air sacs located on their breast, producing a distinctive, steady “plopping” sound, all to attract a female and protect their territory from other males. Females generally ignore the males, until just before breeding.

Most sage grouse in Idaho are migratory. In the late summer and early fall, they congregate in preparation for their journey to the lower-elevation wintering grounds. One of the finest sights of autumn is spotting large flocks of sage grouse flying low on the horizon, headed toward their winter habitat. Migrations of up to 100 miles have been recorded, although generally the trips are shorter.

Often, sage grouse winter and breed in the same area year after year, regardless of weather or food conditions.

### LONG LIVES

For an upland game bird, sage grouse have a remarkably long life span. Four and five year old birds are not unusual, and research shows that 60% to 80% of the birds survive each year. That's roughly twice the survival rate of other upland game birds.

The downside is that the reproductive rate of sage grouse is the lowest of any North American upland game bird. Six to seven eggs is a common clutch. If a sage grouse hen loses her nest, fewer than 15 percent will re-nest. For these reasons, it's difficult for sage grouse populations to recover quickly from low population levels.

### SURVIVAL AND SAGEBRUSH

It's basic, but without good-quality sagebrush, sage grouse can't survive. Sagebrush is especially critical during the winter, when it is virtually the only

source of food. Research has found that over 99% of a sage grouse's winter diet consists of sagebrush leaves and buds. A healthy diet of leaves and buds helps sage grouse weather even the most severe winters. Without an adequate diet, sage grouse mortality rates soar in the winter.

Much of the sagebrush left in Idaho is poor habitat because it is too sparse and grasses and forbs are scarce.

The conclusion is clear: loss of sagebrush means a loss of sage grouse.

Ideal sage grouse habitat has a 15% to 25% sagebrush canopy cover and good grass and forb cover (see photos on page 3). Forb are flowering herbaceous plants, such as arrowleaf balsam root, phlox, lupine and dandelions. This habitat provides critical breeding and brood-rearing areas. Nests are usually small or slight depressions in the ground under sagebrush plants, lined with twigs, grass and feathers.

Meadows, riparian areas, alfalfa fields and other moist areas are

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*"Sage hens stand or fall with the sagebrush."*

— R.E. Thomas, chief game warden  
for Idaho, 1923-1930

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Gary Will

*Sage grouse males display on traditional spring mating grounds called leks.*



Gary Will

*Sage grouse chicks need lots of insects in their diet to survive.*



Seven percent sagebrush canopy cover.

Paul Mahela



Twenty percent sagebrush canopy cover.

Jack Connelly



Thirty-two percent sagebrush canopy cover.

Paul Mahela

It is easy to underestimate sagebrush canopy coverage, as these photos demonstrate.

important summer range for sage grouse, although they'll use a variety of habitats at that time of the year.

Insects are vital to sage grouse chicks. They need a high-protein diet of insects, especially during the first month of life, to sustain a rapid growth rate.

### SAGE GROUSE AND FIRE

Much of Idaho has gone up in smoke in the last decade. The number and size of wildfires are increasing dramatically on Idaho's rangeland. The more rangeland burns, the more annual weeds invade, and the risk of fire increases further. That's not good news for native plants such as big sagebrush — and definitely not conducive to healthy populations of sage grouse. More wildfire means fewer sage grouse. Wildfire, and the resulting destruction of sagebrush and the

*“The importance of big sagebrush cover for nesting cannot be overestimated.”*

*Sage Grouse Management in Idaho,*  
1981 publication of Idaho Department of Fish and Game



Jack Connelly



Tony Appa

Good sage grouse nesting habitat consists of sagebrush stands with 15-25% canopy coverage and good understories of grasses and forbs.



BLM File Photo

*Wildfires have increased dramatically in recent years, and destroyed hundreds of thousands of acres of Idaho sage grouse habitat.*

plants associated with it, remains one of the primary threats to sage grouse in Idaho.

### **SAGE GROUSE AND LIVESTOCK GRAZING**

Successful sage grouse nesting is dependent on adequate nesting cover. That may put healthy sage grouse habitat at odds with livestock grazing in some areas of Idaho. The two can co-exist, when grazing is managed to provide adequate herbaceous nesting cover among sagebrush.

### **SAGE GROUSE AND WEATHER**

Cold rain and late snows in May and early June can be disastrous for sage grouse chicks, which are susceptible to hypothermia. Cool spring weather and dry early summers keep insect populations down, depriving chicks of a vital source of protein. Droughts can be catastrophic for sage grouse, too, since forb growth is limited, taking away another food source. When chicks are forced to travel farther for food, the chance that they'll die from exposure,



BLM File Photo

*Sagebrush habitat has also been lost through herbicide sprayings, cheatgrass invasion, and agricultural and urban expansion.*

starvation or predation soars. Spring and early summer weather conditions must be right for young sage grouse to survive.

### **SAGE GROUSE AND PREDATION**

All game birds evolved with some predation and sage grouse are not an exception. Generally, about one in three adult sage grouse die each year because of predators. Less is known about the effects of predators on chicks. Nest losses to predators vary throughout the range of sage grouse, but predators are more successful in areas of poor-quality nesting habitat.

### **SAGE GROUSE AND INSECTICIDES**

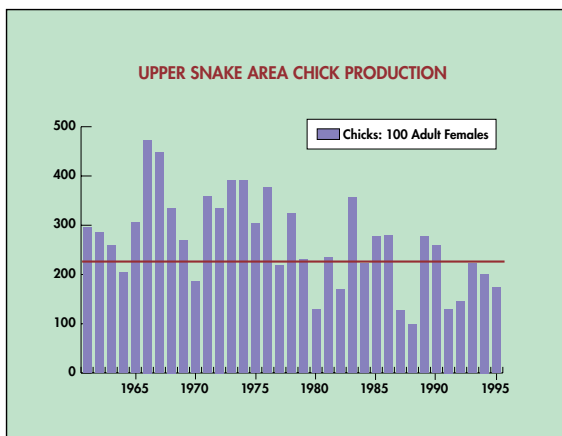
Sage grouse losses due to insecticides have occurred in Idaho, but more research is needed to determine if it is a major cause of population declines.

*“As settlers entered Idaho to homestead ... They initiated the battle against sagebrush. As they developed farms and ranches from the native ranges, they cleared away the shrub steppe vegetation. Since that time, many techniques from burning and chaining to herbicide spraying have been used to convert sagebrush ranges to grasslands ... Generally, decreases in sage grouse populations coincide with the decreases in sagebrush ecosystems.”*

*Sage Grouse in Idaho: Forum 94,  
Published by the Bureau of Land Management*

## THE NUMBERS ARE DOWN

Sage grouse populations fluctuate naturally, but the overall trend in Idaho shows a decline of about 40% from the long-term average. More drastic declines are evident throughout southern Idaho. For example, the number of birds counted on leks in the Red Road area of the Upper Snake Region averaged 350 males from 1961-1970, but now tally fewer than 100 males. The decline is more drastic in the Big Desert area of the South-eastern Region. The number of males has fallen from 900 to less than 200 in the last decade.



The horizontal line is the estimated level needed to maintain a population. Note that since 1980 most years were below the line.

Idaho isn't alone. Other western states are experiencing similar trends. In Colorado, the number of sage grouse males at leks has fallen 31% from 1986 to 1995, when compared with the previous 37 years. Counts were 17% lower in Wyoming, 30% in Utah, 30% in Oregon, 47% in Washington, and 31% in Montana over comparable time periods.

Further complicating the issue is the drop in chick production. Chick production is measured by the number of chicks a hen raises to young adulthood. Since the early 1980s, the average number of chicks born per hen has sunk by 40% to 50% in many areas in the state. In places, the number of young sage grouse simply is not enough to sustain a stable population.

The threat to sage grouse is clearly a problem beyond the borders of Idaho.



IDFG File Photo

## SPORT HARVEST

Sage grouse are popular among hunters. It's estimated by the Idaho Department of Fish and Game that in the early 1990s about 17,000 hunters pursued the bird each year, with a value of more than \$2 million to Idaho's economy. Research indicates hunting has no effect on healthy populations, but might be a problem when bird numbers become very low. To be cautious, biologists have cut traditionally liberal seasons throughout the West. In 1996, Idaho hunting seasons were cut by over 50% and these restrictive seasons will continue in the future. In summary, sage grouse numbers are not low because of overharvest, but conservative seasons can only help as attempts continue to recover sage grouse numbers in Idaho.

They are a crafty bird. Sometimes, they seem to give no heed to approaching hunters, giving the impression of an easy target. Veteran hunters know better; sage grouse both run well and hide well. Many a hunter has been startled by a sage grouse bolting up at his feet.

## A PLAN FOR SAGE GROUSE RECOVERY

A plan developed by the Idaho Department of Fish and Game, in cooperation with the Bureau of Land Management, U.S. Forest Service, USDA Natural Resource Conservation Service, Pheasants Forever, sportsmen and livestock interests, and other organizations, outlines the steps needed to reach target populations of sage grouse in each of the 13 “Sage Grouse Management Areas” within ten years. A key part of the plan is to double the five-year average of males counted on leks.

How will these goals be met?

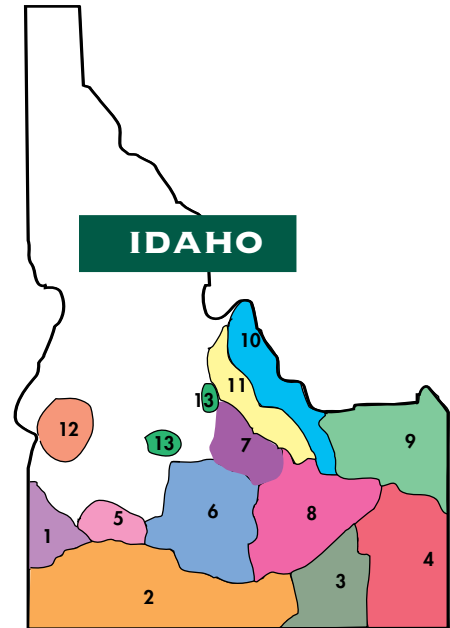
The answer to that question probably will come from “Local Working Groups” (LWGs). They will assist in developing area-specific management programs that will maintain, improve or restore local sage grouse populations. Membership on the LWG is open to anyone who has an interest in sage grouse management.

Each LWG will develop a local program for sage grouse and their habitat within a year after its first meeting. Once the local management program is adopted, each LWG will meet at least annually to review progress, address new issues, and change activities as needed.

Through development of partnerships among agricultural interests, sportsmen, and state and federal agencies, sagebrush habitat quality will improve and future generations will live in harmony with sage grouse – a vital part of Idaho’s high desert heritage.

*“It is crucial that groups that want to help develop local management programs be involved from the beginning and commit to involvement throughout the process. All Local Working Groups should be balanced in composition so that all interests are given fair representation.”*

Idaho Sage Grouse Management Plan, 1997



## IF YOU'D LIKE TO KNOW MORE

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