

# **SAGE GROUSE MANAGEMENT PLAN**

**OWYHEE COUNTY, IDAHO**

**ADOPTED JUNE 2000**

**AMENDED AND UPDATED  
AUGUST 2004**

Owyhee County

Sage Grouse Local Work Group

Release Date – August 18, 2004

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**PURPOSE OF THE PLAN**

Utilize local input and knowledge to develop a long-term collaborative management plan providing a framework for sage grouse management in conjunction with federal, state and Owyhee County land management plans and actions in Owyhee County. This long-term management plan will provide guidance to resource and land management agencies as well as Owyhee County in dealing with issues that directly or indirectly affect the GOAL of the local working group. While the plan proposes a significant number of action items, the initial emphasis is to provide for better information on sage grouse and sage grouse habitat in Owyhee County to permit more informed decisions in the future.

**GOAL**

**Preserve and increase sage grouse populations in Owyhee County.**

**GUIDING PRINCIPLES FOR PLAN DEVELOPMENT**

The Idaho Fish and Game Commission is legislatively mandated and authorized to preserve, protect, and perpetuate the state's fish and wildlife resources. The Idaho Department of Fish and Game (IDFG) has undertaken an effort to establish the Idaho Sage Grouse Task Force to develop a state plan that addresses concerns for declining sage grouse populations in the state. This plan calls for the establishment of local sage grouse working groups that localize plans and programs that maintain, improve, and restore local sage grouse populations and their habitats.

The Owyhee County Natural Resources Committee is charged by the Owyhee County Commission with the development, revision and implementation of a Land Use and Management Plan for Owyhee County. This plan addresses all of the resource values associated with these lands. As issues related to management of lands arise, the Owyhee County Natural Resource Committee initiates the county process developed for the overall plan to address those issues.

The Idaho Department of Fish and Game and Owyhee County have a mutual interest and concern in the issue of declining sage grouse populations. For this reason, it is in the mutual interest of both parties to work closely and cooperatively in the development of a sage grouse population stabilization and recovery plan. The Owyhee County Sage Grouse Local Working Group was established to create a management plan that would establish a process and put into place a framework that would guide management efforts aimed at improving sage grouse populations and reverse recent declines of sage grouse.

The Owyhee County Sage Grouse LWG desired participation from as diverse a group as possible to ensure a collaborative and cooperative effort from all resource interests. Monthly meetings were held with as many as forty participants. Representatives have included the BLM, US Fish and Wildlife Service, Idaho Department of Fish and Game, Owyhee Cattlemen's Association, Idaho Cattleman's Association, Idaho Bird Hunters, Owyhee County Natural Resource Committee, Idaho Wildlife Federation, Idaho Wildlife Council, The Nature Conservancy, USDA NRCS and FSA, Ada County Fish and Game League, Chipmunk Grazing Association, 71 Livestock Association, Idaho Department of Lands, Idaho Off Road Vehicle (SIDRA), Wildlife Services, United States Air Force, and other general public interests.

### **GUIDING PRINCIPLES FOR THE LOCAL WORKING GROUP**

1. Invite and include everyone interested in sage grouse management in Owyhee County.
2. Respect individual views and make decisions through collaboration and consensus.
3. Develop management plans and actions that are compatible with the objectives and actions contained in the Owyhee County Land Use and Management Plan for Federal and State Lands.
4. Develop management plans and actions that are compatible with the purpose and intent of the 1997 Idaho Sage Grouse Management Plan.
5. Implement management actions in ways that meet the Plan's GOAL as agreed to by the local working group.
6. This Plan is intended to be a fluid and dynamic plan that may change as new information becomes available.
7. The Plan's working time frame shall be 5-year intervals but it will be reviewed annually.
8. Additional funding will be required to accomplish needed actions.

### **MANAGEMENT PLAN DEVELOPMENT**

The area of concern for the Owyhee County Sage Grouse LWG was agreed to encompass Owyhee County proper, or all of IDFG Management Area 1 and the western portion of Management Area 2. The Owyhee County Sage Grouse LWG compiled an extensive list of issues concerning sage grouse. This list was narrowed to forty-six issues of greatest importance. These forty-six issues were ranked and consolidated under five sage grouse management efforts.

Sage Grouse Management Efforts Are Focused on the Following:

1. Sage Grouse Habitat
2. Sage Grouse Predators
3. Sage Grouse Hunting
4. Sage Grouse Research and Monitoring
5. Program Funding

A Local Working Group sub-committee was established for each of the five sage grouse management efforts. Sage grouse management sub-committees were responsible for further developing each issue of immediate importance associated with its management effort. Subsequently, the full work group approved the elements of the plan as presented in the 2000 Sage Grouse Management Plan. In July of 2004, a subcommittee was established to review compatibility with the FWS Policy for Evaluation of Conservation Efforts (PECE) and develop a PECE matrix for existing management proposals. The committee developed recommended changes, deletions and additions to the plan along with PECE matrix information for those recommendations. An additional element needed for PECE compatibility is the identification of threats relative to the Owyhee County planning area, which is included. This plan reflects changes adopted by the Local Work Group at two meetings called to act on the subcommittee recommendations. The PECE matrix is attached as Appendix B.

## **SAGE GROUSE POPULATION INFORMATION**

There are three primary sources of information on sage grouse populations in Owyhee County: lek counts, recruitment of young to the fall population, and sage grouse hunter participation measured at check stations. Each of these data sources has its limitations. In 2000, the hunting permit system was initiated to specifically identify sage grouse hunters for telephone survey and has substantially improved hunter take information and data. The currently available sage grouse population information for Owyhee County are presented in Appendix A.

### **Lek Counts and Surveys**

Lek counts census number of males attending leks along established routes while lek surveys classify known leks as active or inactive each year (Autenreith et al. 1982). Lek counts have been concentrated in three parts of Owyhee County west of the Bruneau River as well of parts of eastern Owyhee County. Since only one to three leks were counted in each area and not all leks were counted every year, the counts must be interpreted with caution. Since 1999 there have been substantial efforts to increase lek count information including aerial surveys to find and count active and historic leks and to identify new lek sites.

### **Recruitment of young to the fall population (chick production)**

This data is developed by examining wings from sage grouse harvested by hunters and determining the number of juvenile birds in the harvest. Research studies of sage grouse population dynamics indicate that the number of young sage grouse surviving to the fall for each adult hen is a good indicator of population trend (Johnson and Braun 1999). Recent population analyses indicate that a ratio of 2.25 chicks per adult hen provide adequate recruitment to maintain or slightly increase a population (J. Connelly, pers. communication). Most wings are collected from hunters in the Battle Creek / Big Springs area and south of Grasmere, areas with generally stable habitats. The only productivity estimates are for the entire county since not enough wings have been collected to determine differences in productivity among different areas in Owyhee County.

### **Hunter Participation and Success**

Many factors impact sage grouse hunting activity. Weather, bag limits, status of the sage grouse populations, number of licensed hunters, and human population demographics are all factors that may influence hunter numbers as well as success (Table 5). Check station data provides limited meaningful information as to sage grouse populations. Hunter success was 1.1 birds per hunter in the 60's and 70's and remained virtually unchanged in the 80's and 90's at 0.97. Likewise, the average

hunting hours per bird has averaged 5.7 over the past 40 years with values of 4.7 in the 60's, 6.1 in the 70's, 6.6 in the 80's and 5.0 in the 90's. The check stations in Owyhee County have run on a variety of schedules. The number of check stations has declined with the number of sage grouse hunters. The four check stations operated opening weekend from 1958 to 1962 and again in 1999 are roughly comparable. In the 1960's and 1970's an average of over 900 hunters were checked annually. In 1999, 337 hunters were checked, about a 60% decline.

### Summary

The lack of consistent and representative information limits the ability to define sage grouse populations generally in Owyhee County. There is a need to develop adequate data to establish a baseline from which to measure change. The need to improve the scope of data collection particularly for lek counts from more areas is apparent. A more direct measure of nesting success is also an important need.

### SAGE GROUSE THREATS AND EXISTING CONDITIONS THAT AFFECT OR MAY AFFECT SAGE GROUSE AND THEIR HABITAT IN OWYHEE COUNTY

While there is no conclusive evidence that Sage grouse populations are either threatened or endangered in Owyhee County, there are situations that impact sage grouse habitat and thus provide opportunity to improve habitat and potentially increase sustainable populations. Overall improvement of sage-grouse populations and their habitat in Owyhee County will contribute to the stability and preservation of the specie throughout their range. In Owyhee County, sage-grouse population indicators such as lek counts have been constant since 1980 for those areas with relatively consistent data. Wing data indicates reproduction (addition of individuals to the population in one reproductive cycle, as indicated by Juvenile/adult female ratios) has trended upward since 1995. Reports from landowners and ranchers indicate noticeable population increases over the past 5 years. Hunter take data also indicates increased numbers. The Idaho Fish and Game hunter survey data shows hunter takes of 1,240 birds in 2,001, 1,498 birds in 2002 and 1,835 birds in 2003.

The most important ongoing resource effects related to sage grouse habitat in Owyhee County include: the encroachment of western juniper into sagebrush steppe habitats; the occurrence and past occurrences of wildfire; non-native invasive species including Cheatgrass, Medusahead rye and a number of species of Idaho State listed noxious weeds. Other factors related primarily to past management practices and wildfire are habitat fragmentation and perennial grasslands occupying sagebrush steppe habitat. Direct impacts on sage grouse populations include hunter harvest and predation. In addition over grazing by livestock can impact sage grouse habitat.

### **WILDFIRES IN SAGEBRUSH HABITAT**

Fire is the greatest single factor responsible for the loss of Sage Grouse habitat in southeastern Owyhee County. Many of the fires occurred in the more arid Wyoming big-sagebrush habitat type, covered large areas and were often followed by increases in annual grasses, especially cheatgrass. There is very limited opportunity to restore these areas to their former state and they essentially represent a stable state that will not change without substantial human disturbance intervention. The increase in fine fuel in the form of cheatgrass has made these habitats more prone to fire and increased fire frequencies that result in loss of shrubs, especially sagebrush. Sagebrush seed is wind-dispersed and 95% is deposited within 30 feet of the parent plant, which largely precludes natural reseeding of large complete burns.

At the same time, areas that have not had wildfire recurrence for 15 to 20 years typically show substantial sagebrush recruitment, especially at the higher elevation range for Wyoming big-sagebrush and natural Mountain big-sagebrush communities). In addition, Mountain big-sagebrush typically re-established rather rapidly (Winward 1991) and such habitats may be fully occupied by big-sagebrush in 20 to 30 years..

In *Artemisia tridentata* spp. *vaseyana* (Mountain big-sagebrush) habitats, normal fire frequency is estimated to have been estimated to be 15 to 25 years in southwest Idaho (in some instances as short as 3 to 7 years), (Burkhardt and Tisdale 1976) and 12 to 15 years in south central Oregon, (Miller and Rose 1999). In *A. t. wyomingensis* (Wyoming big-sagebrush) habitats fire return intervals have been estimated at 50 to 120 years (Whisenant 1990). Because of increased fine fuel from exotic annual grasses and more human-caused wildfires, fire frequencies are now as little as 5 years in some low-elevation habitats. Management strategies to decrease wildfire in these areas include increased fire suppression efforts, focused protection of key habitat areas during a wildfire, aggressive reseeding of sagebrush and where needed perennial grasses in burned areas, and developing greenstrips (strips of fire-resistant vegetation planted to slow wildfires) and other fuel breaks.

### **WESTERN JUNIPER ENCROACHMENT**

Western juniper encroachment is a primary factor influencing loss of sage grouse habitat in west-central Owyhee County. The annual amount of juniper invasion on state and federal land has been estimated to be as high as 2500 acres annually (USDI-BLM, 1990). As early as 1990 estimates of total seral juniper stands ran from 250,000 acres to over 300,000 acres (USDI-BLM, 1990). More recent information provides similar estimates of 165,138 on Federal lands, 26,897 acres on State lands and 69,284 acres on private lands. Many higher elevation mesic sagebrush sites such as mountain big sagebrush-Idaho fescue are no longer useful sage grouse habitat because of tree encroachment and loss of understory shrubs and herbaceous plants. Photographic records and juniper stand age patterns clearly demonstrate that since about the 1870's western juniper has been extending its range from the fire-safe rim-rocks and rock outcrops into the valley slopes and bottoms (Burkhardt and Tisdale 1976).

Juniper has a high water transpiration rate (Miller's research at Squaw Butte in Oregon shows that a closed stand of Juniper will transpire up to 14" of precipitation annually). Dense seral juniper stands intercept and allow increased evaporation of precipitation. In heavy storm events, the loss of understory results in lower soil intake of moisture due to more rapid and increased runoff. The high transpiration rates further restrict moisture availability for species that would naturally occupy the site. Thus seral juniper stands create lower soil moisture availability and increase competition for moisture that is available. As seral juniper stands move into upland sagebrush-grass range sites and increase in density and size, the understory of shrubs, forbs and eventually perennial grass is steadily reduced and eventually eliminated entirely. Control of seral juniper expansion and removal of existing stands will restore the shrub-grass-forb communities that previously provided good sage grouse habitat. Reductions of seral stands should provide an additional benefit to sage grouse and other wildlife by providing increased water flow in streams, springs, bogs, and meadows. In many areas restoration will need to include reseeding of sagebrush and native grass and forbs.

### **INVASIVE, EXOTIC AND NOXIOUS WEED SPECIES**

Cheatgrass is a prominent invasive species that has established some dense stands along the Snake River plain and some medium elevations along the Owyhee Front. Some areas south of Bruneau also support significant stands. This species provide a fine volatile fuel that tends to burn more

frequently and eliminate sagebrush from the site. Recent research indicates that methods are being developed to rehabilitate sites where precipitation will support establishment of perennial species. In most cases the strategy is to establish perennial bunchgrasses following fire. In most cases use of non-native species is the only reliable choice. These seedings prevent cheatgrass from dominating the site and allows sagebrush to re-establish through seeding, naturally or through further rehabilitation efforts. The cost of rehabilitation projects is quite high. The other prominent exotic species is Medusa rye. It is found mostly along the Oregon border in Owyhee County and has not spread significantly after becoming established. There are no cost effective ways to successfully convert these stands back to mixed native communities (Burkhardt and Tisdale 1976). The most threatening noxious weeds are Leafy spurge and Whitetop with a number of other listed weeds present in fewer areas and affecting fewer acres.

### **HABITAT FRAGMENTATION AND PERENNIAL GRASSLANDS**

Habitat fragmentation can result from wildfire alteration of sagebrush cover and as a result of subdivision and development in rural areas. Land use planning policies discourage rural area developments but there is no mechanism to prohibit the development of private lands. The rural nature of the area, hot dry summer climate and condition of road access systems also discourages such development. It is the policy of Owyhee County through their Land Use and Management Plan for Federal and State Lands to promote ranching and livestock grazing as a viable sustainable land use, which will preserve open space and recreational access in rural Owyhee County.

Wildfire can result in a change to perennial grassland in two ways. First, the area may be seeded with perennial bunchgrass to avoid invasion by cheatgrass or to maintain soil stability and watershed function. Second, areas not prone to cheatgrass invasion with a prominent understory of perennial grass will naturally recover to perennial grassland. The longevity of perennial grasslands is largely site dependent. In the more arid Wyoming big-sagebrush habitat type seedings may last for many years before significant sagebrush recruitment occurs and intervention is necessary to shorten the recovery period.

In the Mountain big-sagebrush habitat type, sagebrush recovery may be sufficient to provide sage grouse habitat 10 to 15 years depending on site capability and the completeness of combustion. On these sites seeding of sagebrush is seldom necessary or cost effective. In Mountain big-sagebrush sites where fire frequencies have been substantially lengthened from historic occurrences, the increased density of sagebrush both suppresses the understory provides high fuel levels and when burned may require seeding to initiate rapid watershed protection. In some cases these sites may be slow to recover the shrub component and may require intervention seeding to hasten the process. Similarly, the sites where seeding of perennials is unnecessary the combustion may be complete enough over a large enough area the intervention seeding of sagebrush may be necessary to hasten recovery.

Recent estimate based on GIS analysis suggest there may be as much as 300,000 acres of perennial grassland in Owyhee County (USDI-BLM 2004). No information is available to determine the relative proportions of native grassland or seedings or the relative condition of these areas as to re-establishment of sagebrush.

## **PREDATION IMPACTS ON SAGE GROUSE**

Some studies (Batterson and Morse 1948, Autenreith 1981) have collected data suggesting that ravens and/or other predators can destroy a large number of sage grouse nests. Connelly et al. (1991) also noted that ravens and magpies were common predators of sage grouse in eastern Idaho but they also documented good nesting success rates of over 50%.

Habitat is frequently cited as the most critical factor associated with the current status of sage grouse populations and consideration for maintaining and improving habitat is justified. However, the impacts of predators on sage grouse must also be considered. Long-term data (Sauer et al. 1997) shows that raven numbers have increased about 5% annually in Idaho for over 20 years. Data for the rate of coyote take per hour by aerial hunting over time shows that take rates have more than doubled in recent years. While predation of sage grouse and their nests is known to occur, the predation rates in Owyhee County have not been fully studied. Clearly, at some point increasing populations of predators will have a negative effect on total sage grouse populations regardless of habitat conditions. Predation data needs to be better defined for Owyhee County and where it is shown that predation is biologically important, predator management should be included in sage grouse management programs. Predator management should also be considered in combination with habitat restoration programs that may take several years to restore suitable sage grouse nesting habitat and cover.

Artificial nest studies at three areas in Owyhee County were conducted to identify sources of nest predation. The results show avian predation rates ranged from 58% to 71% of nest losses with mammalian rates from 19 to 38%. By species, coyote took 15 of 150 nests while raven took 40 of 150 nests. In addition, nests were destroyed by Magpie (9), Crow (1), Badger (4) and Bobcat (1). This study was not intended to determine the expected rate of nest predation but does indicate the relative importance of different predator species and provides direction for further study.

## **HUNTING**

Studies have indicated that hunting is usually not a major factor in the population dynamics for healthy sage grouse populations (Braun 1998). However, hunting is a factor that can be changed relatively quickly if needed. In addition localized hunting pressure may have localized impact on sage grouse populations. The permit system for identifying sage grouse hunters has been valuable in collecting hunter survey data that provides good information as to sage grouse take. Information gained from the wings of harvested birds can be important in determining sage grouse population dynamics.

A conservative hunting season and bag limit may be appropriate until new data suggests that this is biologically unsound or that increased take rates could be sustained along with healthy sustainable populations. Hunter take data shows that take levels have been steadily increasing with 1240, 1498, and 1835 birds taken in 01, 02 and 03 respectively. These data, while indicating increased populations, must be considered carefully relative to future take rates and potential need for changing season and bag limits or other measures that limit sage grouse harvest to maintain population growth.

## **LIVESTOCK GRAZING MANAGEMENT**

Since the 1930's vast grazing management improvement programs have been implemented. Reductions in stocking levels, hundreds of miles of fence and extensive water developments have allowed for intensive control of the timing, frequency, duration and intensity of grazing. BLM data shows that during the 50 years between 1936 and 1986 areas classed as excellent or good condition doubled. During the same time period, poor and fair condition range decreased by 20% (USDI-BLM 1990). From

1981 to 1999 High seral and PNC rangeland in the Owyhee Resource Area increased by 25%, mid seral range increased by 34% and low seral range decreased by 24% (USDI-BLM 1999).

The Idaho Sage Grouse Management Plan (1997) states, *"In the 1960s and 1970s, Idaho had large numbers of sage grouse and extensive livestock grazing. This suggests that healthy sage grouse populations and livestock grazing are compatible. In short, livestock grazing that results in rangeland in good ecological condition also provides acceptable sage grouse nesting, chick rearing and winter habitat."* Never the less, additional improvement is possible.

Livestock grazing has been implicated as an impact on sage grouse habitat in two primary ways. First, over grazing (defined as grazing practices that cause deterioration of range resources) can lead to deteriorated habitat conditions by depleting understory plants and resulting in change toward excessively dense sagebrush stands. While this is a potential threat, there is no evidence of significant widespread occurrences of over grazing in Owyhee County at this time. Second, livestock grazing has been cited as having a potential impact on the amount and height of nesting cover that in turn allows higher rates of nest predation. Again, information from Owyhee County shows that nest success rates do not reflect predation rates above the norm and areas with sufficient data indicate increasing populations. This indicates that, in general, there are sufficient nesting areas with sites that have adequate cover to support normal nesting success rates.

While there is no evidence of wide spread range deterioration (downward trends) there is opportunity to develop or improve proper grazing management. (As used herein, "proper grazing management" means to plan, schedule, and control the timing, intensity, and duration of grazing and the occurrence of these over time, in a manner that achieves or trends toward management objectives. "Proper grazing management" includes appropriate consideration of all resource values.) Under BLMs Idaho Standards and Guidelines (ISG) implementation schedule, all grazing allotments in the Owyhee Resource area will have been evaluated and decisions issued by 2007. The Owyhee Field Office has completed ISG evaluations on all of the 151 allotments in the old ORA and 4 of the 43 allotments in the old Bruneau RA. The Jarbidge Field Office has completed 29 of 63 allotments and will complete and additional 15 in 2005. Together the field offices will have applied the ISG to 199 of the 268 allotments (75%) in Owyhee County by the end of 2005 and all allotments by 2009. The ISG addresses eight standards including Watersheds, Riparian systems, Native plant communities, Rangeland seedings and Threatened/Endangered/Sensitive species habitat. Where there is believed to be a deficiency for one or more of these standards, grazing management is reviewed and proper grazing management implemented to correct the deficiency. Thus, grazing management has or is being implemented to prevent any threat to sage grouse habitat. Thus, even where sage grouse habitat conditions may be less than optimum, grazing management is in place or being implemented to initiate improvement.

Meadows, springs, creeks, and other riparian areas can be important late brood rearing habitat in some areas. In particular irrigated forage crops on private lands provide large areas of high quality mid and late season brood rearing habitat. Studies have shown that managed livestock grazing can enhance late season brood rearing habitat. Proper grazing management increases the availability of succulent meadow vegetation and reduces tall cover which sage grouse avoid when feeding in meadow areas (Klebenow 1985, Evans 1985, Neel 1980). Further, Livestock water developments can benefit sage grouse habitat when properly designed and used to implement proper grazing management programs. Any alteration of extensive or intensive grazing management plans should be approached with caution. Grazing management plans capable of increasing the rate of range improvement result in permanent improvement of sage grouse habitat.

## RECOMMENDED ACTIONS AND OBJECTIVES

All actions listed below will respect private property rights, are subject to funding being available and will be conducted in coordination with all agencies and adjoining counties and states to the greatest extent possible. Finding needed funding for identified actions is a key function of the Owyhee Sage Grouse Local Working Group.

### SAGE GROUSE HABITAT INVENTORY ACTION PLAN

The sage grouse habitat action plan will begin immediately with a written evaluation done at least every 5 years. (Progress reviewed and evaluated in 2004).

- A. **Map locations of all known active and historic sage grouse leks in Owyhee County by the end of 2001.** This will be accomplished by aerial and ground surveys, monitoring radio-marked sage grouse, review of historic lek data and interviews with local resource users (Lead: Idaho Department of Fish and Game (IDFG) (initial map completed in 2001 updates are ongoing).
- B. **Identify and map sage grouse breeding (nesting and early brood) habitat associated with active leks by the end of 2004.** Sage grouse populations will be analyzed as to whether they are migratory or non-migratory. This will be accomplished using radio telemetry data or other techniques for each population. A physical inventory of the associated breeding habitat will then be accomplished on the ground by a wildlife biologist with the assistance of the local livestock operator and other interested parties. (Lead: Appropriate land management agency or private landowner with assistance of IDFG) (Initiated in 1999 and Ongoing).
- C. **Identify and map known sage grouse wintering habitat by the end of 2001.** This will be accomplished by radio telemetry data, aerial and ground surveys, and input from local resource users. (Lead: Appropriate land management agency or private landowner with assistance of IDFG) (Initiated in 1999 and Ongoing).
- D. **Perform a qualitative assessment of the sage grouse breeding (nesting and early brood) habitat associated with active leks.** An interdisciplinary team, including a wildlife biologist, will determine the quality of the breeding habitat. Factors such as soil type, moisture regime, vegetation and grazing systems should be analyzed. Under the Bureau of Land Management (BLM) Idaho Standard and Guidelines implementation schedule this will be accomplished on BLM land by 2007 in the Owyhee Resource Area and 2009 in the Jarbidge Resource Area. (Lead: Appropriate land management agency or private landowner with assistance of IDFG. The Owyhee Natural Resource Committee (NRC) will assist with work on private land.) (Substantially completed and Ongoing).
- E. **Map undesirable disturbance and habitat.** Map crested wheatgrass seedings, fires, juniper encroachment, sagebrush removal or overabundance and other undesirable habitat. (Lead: BLM.) (Initial mapping completed in 2001 and Ongoing).

## SAGE GROUSE HABITAT IMPROVEMENT ACTION PLAN

- A. **Grazing Management.** Sage grouse habitat condition will be assessed through quantitative assessments conducted in accordance with the SAGE GROUSE HABITAT INVENTORY ACTION PLAN (Paragraph D) on state and private land. Sage grouse habitat conditions on lands managed by the Bureau of Land Management will be assessed through the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management. Standard 8 addresses threatened and endangered plants and animals and sensitive animals including sage grouse. If the assessment concludes, relative to sage grouse, that the standard is not being met due to livestock grazing, the Local Working Group will establish an interdisciplinary review (ID) team at the request of an affected party. The ID team will normally consist of a wildlife biologist, range scientist, livestock management specialist, livestock operator(s) and other affected interests who wish to participate. The ID team structure may be modified by agreement of the affected interests if specific participants are not reasonably available. Upon review of all quantitative data and other available information and following a site visit, the ID team will make grazing management recommendations to the Local Working Group. This team will consider both short and long-term benefits to sage grouse and impact on other potentially affected species. The team may recommend additional sage grouse habitat improvement actions based on quantitative assessments and other pertinent data. All grazing management recommendations will be developed on a site-specific basis with full consultation, cooperation and coordination with all affected landowners, management agency(s), permittee(s), lessee(s) and other affected interests. (Lead: Appropriate land management agency or private landowner). (Initiated in 1999 and Ongoing)
- B. **Develop maps that identify sage grouse habitat for high priority protection from wildfire.** Using current information, provide maps to the fire management staff of all groups that fight fires in Owyhee County outlining critical sage grouse habitat in the county. Initial maps will be developed for the 2000 fire season and updated annually thereafter. (Lead: BLM). (Initial maps completed in 2001 and updates are ongoing).
- C. **Fire Rehabilitation.** The sites of all future wildfires in high priority sage grouse habitat identified in Section C will, regardless of potential for natural recovery, be reseeded with sagebrush and, when needed, grasses and forbs best adapted to the site to hasten recovery of the habitat. This policy should be instituted immediately. (Lead: Appropriate land management agency or private landowner). (The action has been carried out since 2000 and is ongoing).
- D. **Sagebrush Restoration.** Implement sagebrush restoration projects in historic sage grouse habitat where historic fires have removed sagebrush cover. A minimum of 1,000 acres of combined federal, state, and private lands shall be targeted for restoration annually with seed mixtures that are best for sage grouse and adapted to the site. (Lead: Appropriate land management agency or private landowner) (One project has been proposed and is being pursued but none completed).
- E. **Juniper Encroachment.** Using the maps created by the Habitat Inventory Action Plan, identify existing and potential loss of sage grouse habitat due to juniper encroachment. The areas of greatest benefit to sage grouse will be prioritized so that juniper control activities can be scheduled. Suitable methods of juniper eradication such as prescribed burning, chemical control, woodland harvest, chaining, and other mechanical means should be evaluated and employed where appropriate. Treat and eradicate juniper on a minimum of 500 acres of state land (IDL Plan) and 12,000 acres of federal land (Owyhee RMP) annually to enhance sage grouse habitat by restoring

healthy sagebrush-grassland communities. (Lead: Appropriate land management agency/authority). (Two projects have been completed and planning is in progress throughout the Juniper encroachment zone)

- F. **Juniper treatment on private land.** Funding will be identified to develop a 50/50 cost share program to assist private landowners in the reduction or eradication of seral juniper stands on their lands. (Lead: Owyhee LWG) (To be initiated, January 2005 and will be ongoing).
- G. **Juniper Treatment Grazing Policy.** Initiate discussions with the BLM to review and seek change of the livestock grazing policy for prescribed burn programs that prohibits fall grazing use after a burn program has been completed. (Lead: Owyhee LWG) (To be initiated, January 2005 and will be ongoing).
- H. **Forage Reserve Program.** Seek sponsors to develop a forage reserve program to provide off site grazing opportunity when livestock are displaced during juniper treatment programs. (Lead: Owyhee LWG) (To be initiated, January 2005 and will be ongoing).
- I. **Invasive Species and Noxious Weeds.** Seek additional funding to support the activities of the Jordan Valley Cooperative Weed Management Area, which is conducting a variety of weed control and/or eradication programs throughout the Jordan Creek drainage basin. Encourage the development of additional CWMAs in other areas of the County and seek additional funding as needed to support those programs. (Lead: Owyhee LWG) (To be initiated, January 2005 and will be ongoing).
- J. **Habitat Fragmentation / Development.** The LWG will provide comment and utilize other means as available to supports the policies of the Owyhee County Comprehensive Plan and Owyhee County Land Use Plan for Federal and State Lands to promote economically viable and sustainable ranching operations in order to discourage conversion of ranchland to rural/remote recreational home development. (Lead: Owyhee LWG) (To be initiated, January 2005 and will be ongoing).

### PREDATOR ACTION PLAN

- A. Using radio-telemetry tracking of sage grouse, determine the effect of predation on sage grouse. Complete the initial research on predation on nesting success and adult survival by the end of 2001. (Lead: IDFG) This action item cannot be accomplished with the current level of telemetry studies and is tabled until funding is sufficient to conduct more extensive studies.
- B. Perform artificial nest studies in selected parts of Owyhee County to compare artificial nest fate in different types of habitat. Use established techniques to reduce potential biases and to identify species of predators involved. (Lead: Wildlife Services and IDFG). Complete initial research by the end of 2002 and continue as needed.
- C. If predators are found to be an important biological factor in some areas, reduce numbers of those predators in those areas. Document whether control improves sage grouse survival or nesting success by comparing treated area to areas with no predator control. (Lead: Wildlife Services for removal and IDFG for monitoring). (No project areas yet identified, ongoing)
- D. Use interviews of local landowners, hunters and others to gather data on predators. (Lead: University of Idaho and Owyhee County). (Initiated in 2004 to be completed in 2004).

## HUNTING ACTION PLAN

- A. Review hunting take data collected annually, and if the information indicates a need to change hunting seasons parameters, recommend hunting regulation changes in March of the following year to the Idaho Fish and Game Commission Lead: Owyhee LWG and IDFG (Initiated in 2000 and continuing annually).
- B. Support legislation to allow IDFG Habitat Improvement Program funds to be used for sage grouse habitat improvement. (Completed 3/2000).
- C. Recommend that the Idaho Fish and Game Commission require a free permit to hunt sage grouse to allow better monitoring sage grouse hunters and their harvest. (Completed 5/2000).
- D. Offer all sage grouse permit holders mail-in envelopes for sage grouse wings. Include a letter explaining the need for the information obtained from wings. (Lead: IDFG) This action item was initiated but found to be ineffective and is tabled indefinitely.
- E. Maintain needed check stations and wing barrels. (Lead: IDFG) (Ongoing)
- F. Use a telephone survey of permit holders to estimate sage grouse harvest in each county. (Lead: IDFG) (Ongoing)
- G. Band sage grouse in selected areas to help estimate harvest rates in those areas. (Lead: IDFG) This action item is ongoing and providing some data for population take percentages in areas where banding is occurring.
- H. Re-evaluate this Hunting Action Plan annually. (Lead: IDFG) (Continuing annually)

## SAGE GROUSE RESEARCH AND MONITORING ACTION PLAN

- A. Provide a reliable estimate of the distribution and populations of sage grouse in Owyhee County by 2004. (Lead: IDFG) (expected completion, 2005).
- B. Coordinate efforts by IDFG, BLM, USAF and others to systematically survey (fly or by other means) and/or otherwise identify through landowner surveys all active leks and historic leks in the county by the end of the spring 2004 breeding season. (Lead: IDFG, LWG and University of Idaho).
- C. Determine which sage grouse populations are non-migratory and migratory. (Lead: IDFG). (Four areas completed or in progress, two areas proposed, program is ongoing)
- D. Initiate radio-telemetry studies to determine causes of sage grouse chick mortality by 2002. (Lead: IDFG). This action item cannot be accomplished with the current level of telemetry studies and is tabled until funding is sufficient to conduct more extensive studies.
- E. Investigate the impact of different weather on variation in sage grouse numbers in Owyhee County. (Lead: IDFG) (ongoing).
- F. Encourage research on the impacts of human physical disturbance on sage grouse. (Lead: Owyhee County Natural Resource Committee). (ongoing).

## PROGRAM FUNDING ACTION PLAN

The fundraising and implementation subcommittee will identify funds needed by year and organize efforts to obtain needed funding. Funding will be sought from federal and state agencies as well as others. Technical and financial assistance may be provided to landowners through the IDFG's Habitat Improvement Program.

- A. Annually, obtain funding for additional radio-telemetry studies in western Owyhee County, one starting in 2001 and one starting in 2002 estimated to cost an estimated \$25,000-30,000/year each. (Lead: Fundraising Subcommittee). (Ongoing).
  - B. Obtain funding for the landowner/hunter/other user survey listed in both the Predator and the Research and Monitoring Action plans to be conducted in 2001. (Lead: Fundraising Subcommittee working with University of Idaho and Owyhee County NRC). (Initiated 2004 to be completed 2004).
  - C. Obtain funding for quantitative and qualitative analysis of sage grouse habitat in Owyhee County as identified in the Habitat Inventory Action Plan. (Lead: Fundraising Subcommittee). (Ongoing).
  - D. Obtain funding for juniper eradication projects as specified under the Habitat Improvement Action Plan beginning immediately. (Lead: Fundraising Subcommittee). (Ongoing).
  - E. Obtain funding for fire rehabilitation projects as specified under the Habitat Improvement Action Plan beginning immediately. (Lead: Fundraising Subcommittee). (Ongoing).
  - F. Obtain funding for sagebrush restoration projects as specified under the Habitat Improvement Action Plan beginning immediately. (Lead: Fundraising Subcommittee). (Ongoing).
  - G. Obtain funding for the artificial nest studies under the Predator Action Plan starting immediately. (Lead: Fundraising Subcommittee). (Ongoing).
-

## REFERENCES:

- Autenreith, R. E., W. Molini, and C. E. Braun. 1982. Sage grouse management practices. Western States Sage Grouse Committee Technical Bulletin 1. Twin Falls, ID. 42pp.
- Batterson, W. M. and W. B. Morse. 1948. Oregon sage grouse. Oregon Fauna Series Number 1, Oregon Game Commission, Portland. 29 pp.
- Braun, C. E. 1998. Sage grouse declines in western North America: what are the problems? Proceedings of the Western Association of State Fish and Wildlife Agencies 67:134-144.
- Burkhardt J. Wayne and E. W. Tisdale. Causes of juniper invasion in southern Idaho. 1976. Ecology 57.
- Connelly, J.W., W.L. Wakkinen, A.D. Apa, and K.P. Reese. 1991. Sage grouse use of nest sites in southeastern Idaho. J. Wildl. Manage. 55:521-524.
- Evans, C. 1985. The relationship of cattle grazing to sage grouse use of meadow habitat on the Sheldon National Wildlife Refuge. M.S. Thesis, Univ. of Nevada, Reno.
- Johnson, K. H. and C. E. Braun. 1999. Viability and conservation of an exploited sage grouse population. Conservation Biology 13:77-84.
- Klebenow, D. A. 1985. Habitat Management for Sage Grouse in Nevada. The World Pheasant Association. Journal X. 1984-1985.
- Neel, L. A. 1980. Sage grouse response to grazing management in Nevada. M.S. Thesis, Univ. of Nevada, Reno.
- Sauer, J. R., J.E. Hines, G. Gough, I. Thomas, and B.G. Peterjohn. 1997. The North American Breeding Bird Survey Results and Analysis. Version 96.4. Patuxent Wildlife Research Center, Laurel, MD.
- USDI, Bureau of Land Management. 1990. Draft Owyhee Vegetation Management Plan.
- USDI, Bureau of Land Management. 1990. State of the Public Range.
- USDI, Bureau of Land Management. 1999. Owyhee Resource Management Plan and Final Environmental Impact Statement, 1999.
- USDI, Bureau of Land Management. 2004. GIS analysis of sage grouse habitat planning map. Unpublished data. Idaho BLM State Office.
- Whisenant, S. G. 1990. Changing fire frequencies on Idaho's Snake River Plains: Ecological and management implications. Proc. Symp. cheatgrass invasion, shrub die-off and other aspects of shrub biology and management. Las Vegas, NV, April 5-7, 1989.
- Winward, A. 1991. Special Report 880, Agricultural Experiment Station Oregon State University in cooperation with Agricultural Research Service, U.S. Department of Agriculture, Management in the Sagebrush Steppe.

Review of Current Sage Grouse Population Data for Owyhee County

In August of 1997 the State of Idaho developed the Idaho Sage Grouse Management Plan to address what was termed “record low populations” and “dramatic downward trends”. The Idaho plan identified a number of local management areas and presented data purported to demonstrate the “dramatic downward trends” for each area including Owyhee County. In response, Owyhee County entered into a MOU with the Idaho Department of Fish and Game in 1998 to develop a Sage Grouse Management Plan. Two years later a plan was completed and many of the management actions have been implemented and more are in the various stages of completion.

One of the initial actions of the Owyhee County Local Work Group was to examine the existing data and determine where more or better data was needed. The existing population information relied heavily on lek counts, reproductive data obtained from wings counts and to some extent on hunter success rates and total take data. It became clear that the data purportedly showing population decline was entirely inadequate to quantify populations or trend and no direct census information was available.

The analysis of existing data could not justify a conclusion that populations were in decline or that the data differences over time were not normal fluctuation. The standard lek count procedure is to count each lek three times each season; however, in reality some are counted only once or twice and in some years not all leks are counted or no leks are counted. This is a reflection of the remoteness of the sites, the difficulty of overland travel to reach the sites in early spring and untimely inclement weather. Not only have lek counts been somewhat sporadic there have been few surveys to identify when and where birds abandon a lek and develop another site. Thus, some counts are simply conducted in the wrong place because there were no surveys to determine when birds moved to a new lek area to assure that all lek sites for a lek route were counted.

The following figures and table show the results of more in-depth consideration of the available data as well as information gained from more recent data. Review of the existing and new data does not support a contention that sage grouse populations in Owyhee County are in a downward trend.

Table 1 provides a different view of the lek count data for Owyhee County. Again, total numbers are difficult to equate to populations from lek survey data because different numbers of lek routes are counted in different years. However, Table 1 provides a comparison of total birds counted during years that the same lek(s) (routes) in a group were counted and is provided simply as an added view of the data. Five lek routes were all counted each year from 1980 to 1999 with the exception of 1990-91 and 1994-96 and are shown as group 1 in the table. Data from this group of lek routes does not indicate change within the area where data was collected. Group 2 consists of four lek routes that were counted annually from 1995 to 2003. The total number of birds counted increased throughout the nine years. Group 3 includes all lek routes, which were only counted five of the years from 1997 to 2003. While the

period of recorded counts is only five years, it does include all lek routes and again the total number of birds observed steadily increase.

Tables 2 through 5 present the available information relative to lek counts, reproduction, and hunter check station data. This information is also the source data for Figures 1 through 5.

The information presented in Figure 1 shows a long-term downward trend but the low  $R^2$  value indicates the data is not a good predictor of trend and that the downward trend is primarily a result of the high numbers in the early years of data collection. While it is acknowledged locally that grouse numbers were very high in the 50s and 60s, there is no information to suggest that those populations were a historic norm because they occurred during a time that predator control activities were extensive and effective.

Figure 2 show an upward long-term trend in reproduction but again the  $R^2$  value shows the data is not a reliable indicator. (reproduction or recruitment of new individuals into the population through one reproductive cycle is indicated by juveniles per 100 females). The numbers for juveniles per 100 females is presented as a 5-year rolling average, which is approximately half the normal population fluctuation cycle for sage grouse. Short-term data (1995 – 2003) shows an upward trend for reproduction that much higher trend predictability (Figure 3). Increasing reproductive rates also suggests that breeding, nesting and brooding habitats are also in an upward trend.

By contrast, the lek count data in Figure 4 shows a stable long-term population (no significant trend up or down). When populations fail to increase in the face of increased reproductive rates, the situation can logically be attributed to loss of adult birds related to adult bird predation, hunting take and perhaps disease and/or inadequate winter habitat.

Since not all lek routes are counted each year and some are not fully counted, the total number of birds counted annually does not provide useful comparative information. While imperfect, the average number of birds counted per lek route provides an indication of potential changes in total population (Figures 4 and 5). In this case the trend is essentially flat (The low  $R^2$  value indicates no valid upward or downward trend). Figure 4 also shows the 5-year rolling average and a 10-12 year population cycle. While counts have fluctuated over time, the data suggests there has been no significant change over the past 24 years and numbers are essentially stable in those areas where good data is available.

In the areas where relatively good data is available for Owyhee County the information does not suggest that sage grouse populations are decreasing. Numbers have been largely stable over the past 24 years and have likely increased recent years (Figures 4 and 5). However, lek count and other data require careful examination and cautious interpretation when used to estimate population size or trend.

Figure 1.

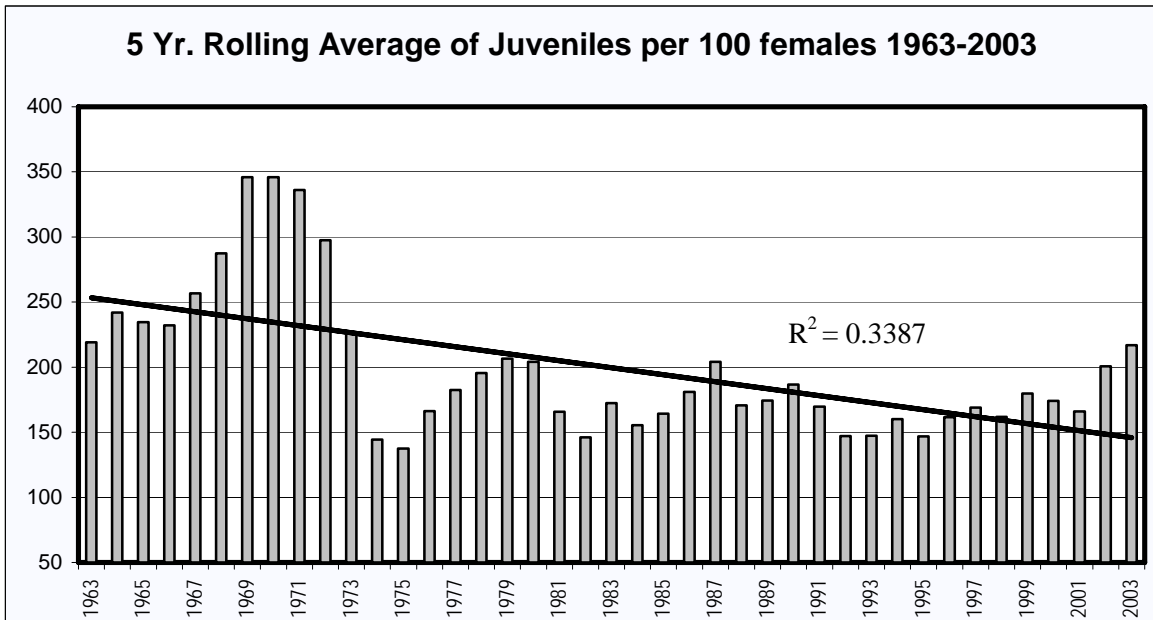


Figure 2

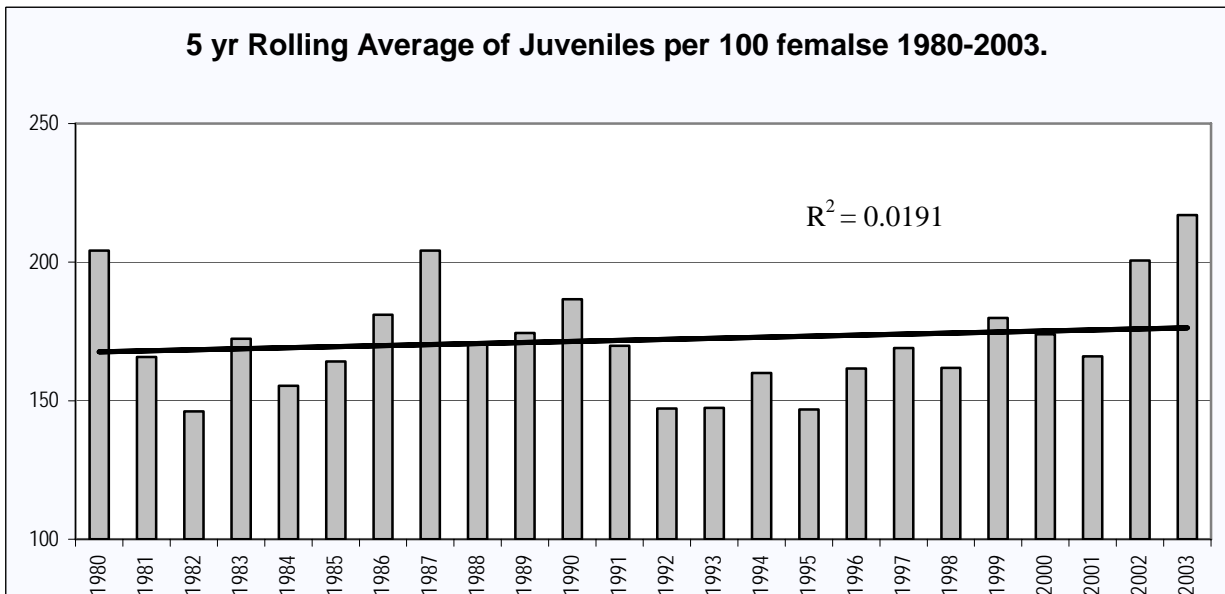


Figure 3

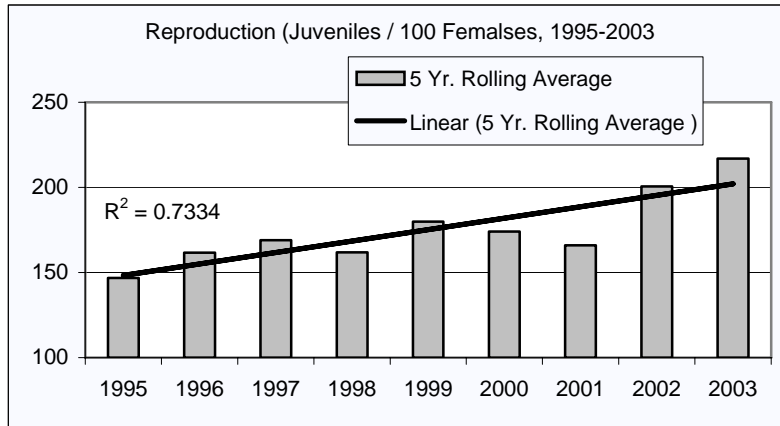


Figure 4

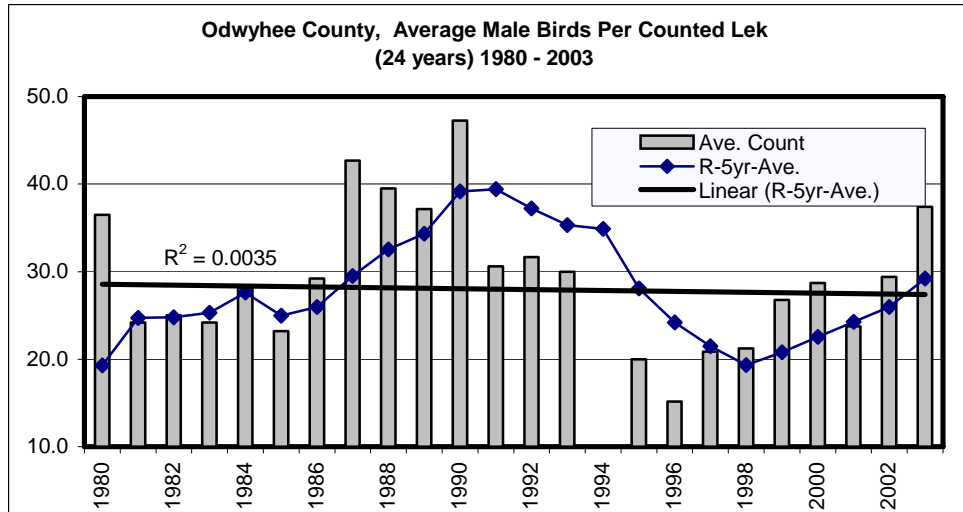
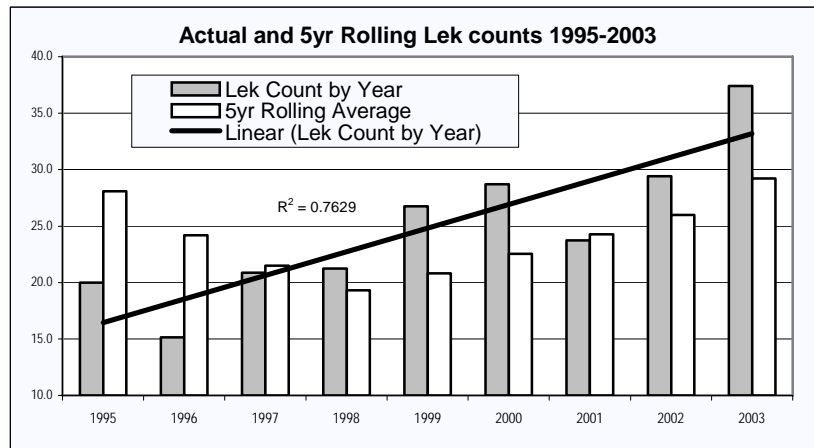


Figure 5



**Table 1 – Total Adult Male Bird Counts for Lek Routes Counted in Common Years - Owyhee County.**

Years	Lek route groups in years that all routes in the group were Counted	Total Birds Counted
1980	<u>Lek route group 1 is made up of the following routes:</u> Jackson Creek Cow Creek Goose Creek Bates Creek Rocky Knoll <u>Average 131 birds Total</u>	146
1981		121
1982		125
1983		121
1984		141
1985		116
1986		146
1987		207
1988		188
1989		179
1992		146
1993		118
1997		88
1998		81
1999		115
2001	119	
1995	<u>Lek route group 2 is made up of the following routes:</u> Castle Creek Bates Creek Rocky Knoll Wickahoney <u>Average 113 birds Total</u>	80
1996		82
1997		78
1998		77
1999		112
2000		112
2001		140
2002		138
2003		197
1997	<u>Lek route group 3 includes all lek routes:</u> Jackson Creek Cow Creek Goose Creek Bates Creek Rocky Knoll Castle Creek Raymond Spring Wickahoney <u>Average 184 birds Total</u>	167
1998		170
1999		214
2001		190
2003		262

This table has no statistical relevance and is presented here as another way of viewing the information available to increase understanding of population dynamics over time.

**Table 2 – Adult Male Bird Counts for Lek Sites - Owyhee County.**

Year	Cow Creek Area				Oreana Area		Riddle Area		Leks	Ave. Count	R5Yr
	Jac. C.	Ray S.	Cow C.	Goose C.	Castl. C.	Bates C.	Rock Kn.	Wickah			
1980	24	-	3	40	-	41	38	-	4	36.5	19.3
1981	16	-	0	34	-	27	44	-	5	24.2	24.7
1982	17	-	19	29	-	29	31	-	5	25.0	24.8
1983	22	-	9	19	-	21	50	-	5	24.2	25.3
1984	29	-	23	16	-	34	39	-	5	28.2	27.6
1985	24	-	10	13	-	27	42	-	5	23.2	25.0
1986	19	-	22	22	-	41	42	-	5	29.2	26.0
1987	43	-	30	34	-	48	52	49	6	42.7	29.5
1988	29	-	29	34	-	50	46	49	6	39.5	32.6
1989	31	-	37	28	-	39	44	44	6	37.2	34.3
1990	31	-	29	29	-	-	100	-	4	47.3	39.2
1991	12	-	27	26	-	42	-	46	5	30.6	39.4
1992	22	-	20	24	-	14	66	44	6	31.7	37.2
1993	10	-	27	14	21	26	41	41	6	30.0	35.3
1994	-	-	-	-	-	-	-	-	-	-	34.9
1995	-	-	-	-	17	13	25	25	4	20.0	28.1
1996	15	-	3	6	10	17	27	28	7	15.1	24.2
1997	41	38	5	5	10	13	24	31	8	20.9	21.5
1998	39	51	0	3	12	16	23	26	8	21.3	19.3
1999	51	48	0	3	32	29	32	19	8	26.8	20.8
2000	48	41	0	-	16	43	34	19	7	28.7	22.5
2001	24	26	0	0	21	53	42	24	8	23.8	24.3
2002	-	-	-	9	26	33	54	25	5	29.4	26.0
2003	27	24	-	14	23	54	72	48	7	37.4	29.2
Ave. 76-03	27.3	38.0	14.7	19.1	18.8	32.3	44.0	34.5		29.2	
Ave. 90-03	29.1	38.0	11.1	12.1	18.8	29.4	45.0	31.3		27.9	
Ave. 99-03	37.5	34.8	0.0	6.5	23.6	42.4	46.8	27.0		29.2	

Dash (-) = no data, 0 = actual count.  
 Source Data for Figures 4 and 5.

**Table 3. Data from several Owyhee County sage grouse leks in the Jarbidge Resource Area, 1972-1999.**

Year	71 Pond/Draw	Juniper Ranch Rd.	Poison Butte SW	3 Saylor Cr. Range Leks
1972		24		
1973		20		
1974		14		
1975		2		
1976		4		
1977		9		
1978		14		
1979		20		
1980	45	25		
1981	35	26		
1982		12		
1983		10		
1984		10		
1985	39	10		
1986	33	11	15	
1987	141			
1988	52			
1989	41			
1990	58			
1991	65			
1992	43	12	41	17
1993	31			
1994	8			27
1995		0	21	9
1996	0	0	29	6
1997	0	0	4	7
1998	19	0	24	5
1999	27	0	23	6
2000				
2001				
2002				
2003				

**Table 4. Sage grouse wing count data, Owyhee County**

Most data prior to 2000 was collected in the Battle Creek / Big Springs and Grasmere / Riddle areas.

Year	No. Wings	Juv per 100 females	Decade Average	5year ave.
1963	888	338		219
1964	705	291		242
1965	589	152		235
1966	630	209		232
1967	993	294		257
1968	572	491		287
1969	1,745	584	294	346
1970	742	152		346
1971	1,066	160		336
1972	917	100		297
1973	830	136		226
1974	588	174		144
1975	485	118		138
1976	402	303		166
1977	299	181		182
1978	358	201		195
1979	479	230	176	207
1980	388	106		204
1981	512	111		166
1982	357	83		146
1983	91	332		172
1984	80	145		155
1985	299	150		164
1986	442	195		181
1987	550	199		204
1988	764	165		171
1989	639	163	165	174
1990	1350	211		187
1991	1564	111		170
1992	790	86		147
1993	385	166		147
1994	385	226		160
1995	208	145		147
1996	139	185		162
1997	271	123		169
1998	305	130		162
1999	546	316	170	180
2000	633	116		174
2001	558	145		166
2002	545	296		201
2003	637	212		217

*1959 to 1962 ratios are 177, 189, 221 and 171 respectively (included in the 1963 - 5 yr. average)*

Source Data for Figures 1, 2 and 3

**Table 5. Owyhee County sage grouse check stations for opening weekends.**

Year	Ck. St.	Days	Bag / Pos	Hunters	Birds	Hours	H / Bird	Hunter
1960	4	2	2/2s	1,046	981	4,280	4.4	0.9
1961	4	2	2/2s; 2/2p	1,022	761	5,051	6.6	0.7
1962	4	2	2/2s; 2/2p	660	734	3,012	4.1	1.1
1963	3	2	2/2; 3/6	733	1,102	2,915	3.0	1.5
1964	3	2	2/2; 3/6	662	1,019	3,721	3.6	1.5
1965	3	2	2/2; 3/6	857	657	5,365	8.2	0.8
1966	3	2	2/2; 3/6	747	934	4,445	4.8	1.3
1967	3	2	2/2; 3/6	760	1,461	4,524	3.1	1.9
1968	3	2	2/2; 3/6	699	639	4,429	6.9	0.9
1969	3	2	2/2; 3/6	960	2,050	5,340	2.6	2.1
1970	3	2	3/3; 4/8	1,222	1,432	6,349	4.4	1.2
1971	3	2	3/6; 4/8	1,310	1,984	8,741	4.4	1.5
1972	3	2	3/6; 4/8	1,392	1,220	9,653	7.9	0.9
1973	3	2	3/6; 4/8	917	1,024	6,346	6.2	1.1
1974	3	2	2/4; 3/6	752	769	5,055	6.6	1.0
1975	3	2	2/4; 3/6	597	556	3,648	6.6	0.9
1976	3	2	2/4; 3/6	557	435	3,464	8.0	0.8
1977	3	2	2/2	441	326	2,777	8.5	0.7
1978	3	2	2/2	505	412	2,835	6.9	0.8
1979	3	2	2/2	479	558	2,431	4.4	1.2
1980	3	2	2/2	504	441	2,955	6.7	0.9
1981	3	2	2/2	464	606	2,142	3.5	1.3
1982	2	2	2/2	359	236	2,178	9.2	0.7
1983	2	2	1/1	108	37	551	14.9	0.3
1984	2	2	1/1	47	31	160	5.2	0.7
1985	2	2	2/2	161	110	710	6.5	0.7
1986	2	2	2/4	245	330	1,407	4.3	1.3
1987	2	2	2/4	291	315	1,554	4.9	1.1
1988	2	2	2/4	329	284	1,619	5.7	0.9
1989	2	2	2/4	228	222	1,199	5.4	1.0
1990	2	2	3/6	476	883	2,914	3.3	1.9
1991	2	2	3/6	476	498	2,639	5.3	1.1
1992	2	2	3/6	599	412	3,172	7.7	0.7
1993	1	1	3/6	74	58	365	6.3	0.8
1994	1	1	3/6	99	109	414	3.8	1.1
1995	1	1	3/6	71	62	260	4.2	0.9
1996	1	1	1/2; 2/4	44	29	174	6.0	0.7
1997	1	1	1/2; 2/4	34	36	133	3.7	1.0
1998	1	1	1/2; 2/4	23	23	87	3.8	1.0
1999	4	2	1/2; 2/4	337	285	1,699	6.0	0.8
2000	4	2	1/2; 2/4	365	212	1,794	6.7	.08
2001	2	2	1/2; 2/4	150	179	983	5.5	1.2
2002	2	2	1/2; 2/4	285	293	1,468	5.0	1.0
2003	2	2	1/2; 2/4	246	254	1,267	5.0	1.0
Ave.				496.3	555.5	2,805	5.55	1

Owyhee County LWG Sage Grouse Management Plan – PECE Matrix

Listing Factor / Threats or Conditions	Lead for Accomplishing Conservation Measures	How Threat or Condition Will Be Addressed	Funding Source(s)	Completion or Planned Implementation Date	Authorities Processes Required
Wildfire Management	BLM Field Office(s)	Sites with high priority sage grouse habitat will be re-seeded with sagebrush and as necessary with grass/forb mixtures	Budgeted BLM Emergency Fire Management Funds.	Initiate 2001. Ongoing as wildfires occur.	NEPA – EA for fire rehab plans
	BLM Field Office(s)	Fire rehab seedings have occurred regularly since 2001. Rehab projects: Rough Diamonds 2001, Trimbley 2002, Big Cow 2003	Budgeted BLM Emergency Fire Management Funds.	Hand seed, 26 ac Aerial seed, 51,954 ac Ground drill, 8,671 ac Plantings 103,000	NEPA – EA for fire rehab plans completed
	BLM Field Office(s)	Develop maps based on vegetation type, lek sites, telemetry data and survey data to identify high priority sage grouse habitat areas for wildfire management under BLM protocols for sage grouse habitat.	Budgeted. BLM Emergency Fire Management Funds.	Initiate 2001. Ongoing updates new information is available.	No authority or process constraints.
	IDFG	Lek surveys will identify new lek sites used to update maps of known high priority sage grouse habitat	IDFG, BLM, LWG / State OSC and USAF	Initiated in 2001. Ongoing.	No authority or process constraints.
	IDFG	Telemetry studies conducted in various areas will identify seasonal use areas and is used to refine maps of known high priority sage grouse habitat.	IDFG, BLM LWG / State OSC and USAF.	Initiated in 1999. Ongoing. **	No authority or process constraints.
	U of I and Owyhee LWG	Conduct Landowner survey to document current local sage grouse and predator characteristics and changes over time. Data used to update & improve maps of known high priority sage grouse habitat	\$13,000 LWG / State OSC.	Initiated June 2004 completion Fall 2004	No authority or process constraints.
	Private Landowners	Seek cooperation of private landowners and obtain funding to provide financial assistance with fire rehab seedings where needed on private lands.	OCS and FWS funding	Kershner Fire 800 ac Completed 2003 Bluebucket Mine Fire 100 ac in process	Landowner cooperation

\*\* Sheep Cr., Grasmere/Riddle Project – initiated 1999, to be completed Fall 2004, Cost \$120,000.

Cow Creek, Project – Initiated in 2000, To be completed Fall 2004, Cost \$75,000.

Castle Cr. / Bates Cr. Project, Initiated in 2001. To be completed Fall 2004. Current costs \$50,000

Big Springs Project. Initiated in 2003. To be completed in 2005, \$15,000 Annually.

Proposed - Big and Little Jacks Creek and Dickshooter ridge. Start both in 2005, Both to be completed in 2007, Each project \$15,000 annually.

Listing Factor / Threats or Conditions	Lead for Accomplishing Conservation Measures	How Threat or Condition Will Be Addressed	Funding Source(s)	Completion or Planned Implementation Date	Authorities Processes Required
Western Juniper Encroachment	BLM Field Office(s)	Treat and eradicate seral Western juniper on a minimum of 12,000 Acres of Federal land annually.	Budgeted - Bureau of Land Management.	Initiated in 2002.. Ongoing.	NEPA Required for each project.
	BLM Field Office(s)	Pixley Basin Burn treated 3,337 ac BLM. Unauthorized 180 ac on private land. These including seedings conforming to wildfire management plan.	Budgeted - Bureau of Land Management.	Completed 2003.	NEPA Completed.
	Agric. Res. Service (ARS)	ARS – Reynolds Creek Project completed 166 ac planned additional 300 ac.	Budgeted ARS.	Initiated in 2002. Ongoing.	NEPA Completed.
	BLM Field Office(s)	Juniper Mountain Restoration Project to initiate burn program within the 300,000 Acre planning area	Budgeted - Bureau of Land Management.	Initiated in 2003. Ongoing.	NEPA in progress.
	Idaho Department of Lands	Treat and eradicate seral Western juniper on a minimum of 500 acres of State land. The IDL conducts juniper control programs annually on State lands in Owyhee County	Budgeted - Idaho Dept. of Lands.	2000 – 2004, Four projects covering 1,200 ac. Ongoing	No authority or process constraints.
	Private Landowners	Encourage Treatment programs on private lands by seeking 50/50 cost share for control programs.	\$25,000 annually. LWG / OSC and FWS programs	Implement January 2005. 400 ac treated w/o cost share	No authority or process constraints. Landowner Participation.
	BLM Field Office(s)	Encourage permittee cooperation in treatment programs by seeking a change in BLM policy to allow grazing in the fall that burn treatments occur.	None Required.	Implement January 2005.	No authority or process constraints.
	Owyhee LWG	Develop a list of entities interested in supplying alternative forage and encourage sponsors to develop a grassbank program to encourage permittee treatment program participation	None Required.	January 2005.	No authority or process constraints.

Listing Factor / Threats or Conditions	Lead for Accomplishing Conservation Measures	How Threat or Condition Will Be Addressed	Funding Source(s)	Completion or Planned Implementation Date	Authorities Processes Required
Invasive species and Noxious Weeds	BLM Field Office(s)	<p>Sites with high priority sage grouse habitat will be re-seeded with sagebrush and as necessary grass/forb mixtures to prevent annual grass dominance.</p> <p>Sagebrush seeding may be unsuccessful (generally in the Wyoming big-sagebrush zone) where annual grass dominance may be a threat following wildfire. In these cases, perennial grass seedings may be required to facilitate long-term future establishment of the shrub component.</p>	Budgeted BLM Emergency Fire Management Funds.	Initiate 2001 Ongoing as wildfire occurs	Environmental Assessment for fire rehab plans
	Owyhee LWG Cooperative Weed Management Area Steering Committee & Cooperating Agencies	Support actions of the Jordan Valley CWMA covering the entire Jordan Creek Watershed. The CWMA participants include the Idaho and Oregon BLM, SCA, Owyhee County, Idaho Dept. of Lands, Owyhee Watershed Council and 10 ranchers. Seek additional funding to support projects of the JV-CWMA.	<p>None Required for LWG activity.</p> <p>The JV-CWMA is 50% cost share funded Private w/ IDA. BLM provides additional funding. Potential additional sources include FWS, IDFG &amp; OCS</p>	<p>JV-CWMA Organization completed 2002</p> <p>2004 AOP \$60,900 for mapping 1000 acres, herbicide treatment 500 acres and Bio-control 100 acres</p>	No authority or process constraints. CWMA's are organized through landowner multi agency agreement or MOU
	Owyhee LWG	Encourage development of additional CWMA programs in other locations in Owyhee County and seek additional State, Federal and Private funding.	None Required for LWG activity.	Ongoing	No authority or process constraints.
	Idaho Department of Lands	Support IDL efforts to identify and control noxious weeds particularly leafy spurge.	IDL is funded to provide week control on State Lands	Annual treatments on Boulder Cr. have reduced leafy spurge to isolated plants	No authority or process constraints.

Listing Factor / Threats or Conditions	Lead for Accomplishing Conservation Measures	How Threat or Condition Will Be Addressed	Funding Source(s)	Completion or Planned Implementation Date	Authorities Processes Required
Livestock Grazing	BLM Field Office(s)	The Bureau of Land Management (BLM) Idaho Standards and Guidelines (ISG) implementation schedule will have assessments and decisions completed on all grazing allotments by 2007. The ISG addresses eight standards including Watersheds, Riparian systems, Native plant communities, Rangeland seedings and Threatened/Endangered/Sensitive species habitat. Where there is believed to be a deficiency for one or more of these standards, including sage grouse habitat, grazing management is reviewed and proper grazing management implemented to correct the deficiency.	ISG Administration Budgeted – BLM.  ISG implementation projects funded through Dedicated Range Improvement Funds and BLM budgeted funds.	ISG decisions completed on 74 OFO allotments covering <u>1.44 million acres</u> . All OFO allotments to be completed in 2007. All others in 2009. The JFO has completed 29 of 63 allotments with 15 scheduled for 2005.	Environmental Assessments for each ISG implementing decision.
	Idaho Department of Lands	The Idaho Department of Lands participates in the ISG plan development on State grazing lands intermingled with Federal land,	Idaho Department of Lands.	There are <u>87,603 acres of State land</u> under ISG plans in 74 allotments.	IDL participates in ISG plan development.
	Private Landowners	landowners participate in the development of ISG management plans applicable to private land intermingled with Federal land.	Private Landowners.	There are <u>158,448 acres of private land</u> under ISG plans in 74 allotments.	Private landowners participate in ISG plan development.
	Idaho Department of Lands	On State grazing lands that provide sage grouse habitat, the IDL will continue to conduct Resource Assessments on all expiring grazing leases and insure that new grazing leases include livestock management practices that address all resource concerns.	Idaho Department of Lands	Ongoing as part of IDL leasing program	IDL plan approval required
	Owyhee LWG Private landowners	Seek landowner cooperation in providing bird ladders in tanks for private water developments and pipelines.	None Required	Initiate in 2004, Ongoing	No authority or process constraints.

Listing Factor / Threats or Conditions	Lead for Accomplishing Conservation Measures	How Threat or Condition Will Be Addressed	Funding Source(s)	Completion or Planned Implementation Date	Authorities Processes Required
Utilization Hunting	IDFG	Change the bag limit to one bird per day and reduce the hunting season to 7 days in the northern part of Owyhee County.	None Required.	Completed	Idaho Fish and Game Commission approved.
	Local Working Group	Seek legislation to allow Habitat Improvement Program (HIP) funds to be used for sage grouse habitat improvement projects.	None Required.	Completed	Legislative action completed.
	Owyhee LWG	Recommend to Idaho Fish and Game Commission that a free permit system be implemented to identify sage grouse hunters and improve information gained from hunter surveys.	None Required.	Completed	Legislative and Idaho Fish and Game Commission action completed
	IDFG	Recommend addition and continuation of check stations and wing barrels.	None Required.	Initiated in 2000. Increased wing barrels and check stations ongoing.	No authority or process constraints.
	IDFG	Implement telephone survey of known sage grouse hunters to obtain better harvest data.	Idaho Fish and Game	Initiated in 2000 and ongoing.	No authority or process constraints.
	Owyhee LWG	Support and participate in BLM route designation efforts to keep ATVs and other vehicles on established roads and trails and avoid off road cross country travel. (Applies also to habitat fragmentation plan)	None required for LWG actions Budgeted w/BLM	Initiated in 2004 and Ongoing.	No authority or process constraints

Listing Factor / Threats or Conditions	Lead for Accomplishing Conservation Measures	How Threat or Condition Will Be Addressed	Funding Source(s)	Completion or Planned Implementation Date	Authorities Processes Required
Predator Action Plan	Wildlife Services and IDFG	Conduct artificial nest studies to identify the primary sources of nest predation.	APHIS – WS IDFG LWG / State OSC.	Artificial nest predation study identified raven and coyote as primary nest predators.	NEPA – EA Completed.
	Wildlife Services and IDFG	Conduct a research project to evaluate the effect of predator suppression on nesting success rates in different habitat types. **	APHIS – WS IDFG LWG / State OSC.	Research project ongoing	NEPA – EA Completed.
	Wildlife Services predator removal. IDFG monitoring.	Where predation is identified as a important biological factor in a particular area, identified predators would be reduced. Document nest success and survival rate changes.	Funded, IDGF and Wildlife Services	Initiated 2000. Contingent on identification of problem areas	NEPA – EA Completed.
	U of I and Owyhee LWG	Conduct Landowner survey to document current local sage grouse and predator characteristics and changes over time. Data will be used to update and improve maps of known high priority sage grouse habitat	Funded. LWG / State OSC	Initiated June 2004 completion Fall 2004	No authority or process constraints. Landowner Cooperation.

\*\* Wildlife Services prepared an environmental assessment for a research project to accomplish the proposed action. The effort was challenged and stopped by the Federal District Court. The LWG and Wildlife Services intend to pursue the research project.

Listing Factor / Threats or Conditions	Lead for Accomplishing Conservation Measures	How Threat or Condition Will Be Addressed	Funding Source(s)	Completion or Planned Implementation Date	Authorities Processes Required
Habitat Fragmentation & Perennial Grassland	See <u>Wildfire Management and Western juniper encroachment</u>	All of the actions proposed under <u>Wildfire Management</u> and <u>Western juniper encroachment</u> are proposed in part to avoid habitat fragmentation and/or prevent the establishment of perennial grassland.	See <u>Wildfire Management and Western juniper encroachment</u>	See <u>Wildfire Management and Western juniper encroachment</u>	See <u>Wildfire Management and Western juniper encroachment</u>
	Owyhee LWG	The LWG will provide comment and utilize other means as available to supports the policies of the Owyhee County in their Comprehensive Plan and Owyhee County Land Use Plan for Federal and State Lands to promote economically viable and sustainable ranching operations in order to discourage conversion of ranchland to rural / remote recreational home development.	None Required	Initiated 2004 Ongoing	Case by case issues are governed by the Planning and Zoning Commission.
	BLM Field Office(s). State Department of Lands. Owyhee LWG.	Implement sagebrush restoration in historic sage grouse habitat where historic fires have removed sagebrush creating perennial grasslands and fragmenting habitat. Target 1000 acres annually for combined Federal, State and Private lands.	Costs depend on annual acreage. Estimated \$10 to \$15 per acre.  LWG / State OSC.	The first project is planned for 2005. Ongoing.	NEPA – EA on Federal lands. Concurrence of IDL or private landowner on non-federal lands..