

CANDIDATE AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: *Centrocercus minimus*

COMMON NAME: Gunnison sage grouse

LEAD REGION: 6

INFORMATION CURRENT AS OF: March 11, 2004

STATUS/ACTION:

New candidate

Continuing candidate

Non-petitioned (second petition received 1/26/00)

Petitioned - Date petition received:

90-day positive - FR date: \_\_\_\_

12-month warranted but precluded - FR date: \_\_\_\_

Is the petition requesting a reclassification of a listed species?

Listing priority change

Former LP: 5

New LP: 2

Latest Date Species became a Candidate: 1/18/00

Candidate removal: Former LP: \_\_\_\_ (Check only one reason)

A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

F - Range is no longer a United States territory.

M - Taxon mistakenly included in past notice of review.

N - Taxon may not meet the Endangered Species Act's definition of A species. @

X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Aves (Birds), *Phasianidae*

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Colorado, Kansas, Oklahoma, New Mexico, Arizona, and Utah.

CURRENT STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Colorado and Utah.

LEAD REGION CONTACT: Chuck Davis, (303) 236-7400, extension 235.

LEAD FIELD OFFICE CONTACT: Terry Ireland, (970) 243-2778, extension 16.

## **BIOLOGICAL INFORMATION:**

In 1977, Dr. Clait Braun, formerly with the Colorado Division of Wildlife (CDOW), noticed that sage grouse (*Centrocercus* sp.) wings collected in the Gunnison Basin of southwestern Colorado were smaller than sage grouse wings collected in northern Colorado. Over the two decades since then, Dr. Braun and others studied the morphological (Hupp and Braun 1991), behavioral (Young et al. 1994, Braun and Young 1995) and genetic differences (Quinn et al. 1997, Kahn et al. 1999, Oyler-McCance 1999) between the sage grouse. The differences were great enough that the American Ornithologists= Union determined that the sage grouse in southwestern Colorado was a distinct species, the Gunnison sage-grouse (*C. minimus*) (AOU 2000).

Through museum specimens or written accounts, Braun (1995) determined that the Gunnison sage-grouse's historic range occurred in southwestern Colorado, southwestern Kansas, northwestern Oklahoma, northern New Mexico, northeastern Arizona, and southeastern Utah. Currently, there are seven population areas in Colorado and one population in Utah. Most populations are small with the Gunnison Basin being the only relatively large Gunnison sage grouse population.

The Cerro Summit/Cimarron/Sims Mesa population is divided into two sub-populations the Cerro Summit-Cimarron sub-population and the Sims Mesa sub-population. Two of the four known lek sites were active in 2003 with 6 males for a total minimum spring population estimate of 18 males and females (CDOW, unpubl. lit. 2004). Three of four known leks were active in 2002; two of the three in the Cerro Summit-Cimarron sub-population, and the single known lek in the Sims Mesa sub-population. Population-wide, there was a high count of only eight males (CDOW, unpubl. lit. 2002) representing a minimum spring population estimate of 24 males and females. In 2001, 12 males were counted on 3 leks for a minimum population of 36. However, both of these counts were higher than in spring 2000, when only six males were counted on two leks. There was one male found at the Sims Mesa lek in spring 2000 prompting transplant of six birds from the Gunnison Basin population that same spring to this sub-population.

In 2003, the Crawford Area population had 4 active leks with a total of 24 males counted, representing a minimum spring population estimate of 72 sage-grouse (CDOW, unpubl. lit. 2004). The Crawford Area population has 13 historic leks mapped and had 4 active leks in 2002, with a high male count of 42 (CDOW, unpubl. lit. 2002) representing a minimum spring population estimate of 126. This was more than in 2001 when the population only had 28 males for a minimum population estimate of 84. However, both of the last 2 years were down from 65 males in 1999 and 60 males in 2000.

There are six active or inactive leks mapped in the Dove Creek population with one smaller satellite lek. In 2003, there were four active leks with 8 males counted representing a minimum total spring population of 24 (CDOW, unpubl. lit. 2004). In 2002 there was a high male count of 20 on 3 leks and the 1 satellite lek (CDOW, unpubl. lit. 2002) representing a spring population estimate of 60 males and females. In 2001, Dove Creek had 27 males on 3 primary leks, or a minimum population estimate of 81. Both these years were down from a male high count of 56 in 1999 and 47 in 2000.

In 2003, the Gunnison Basin had 40 active leks, 16 inactive leks, 19 leks of unknown status, and, 2 historic leks. There were 500 males counted on the 40 active leks representing a total minimum spring population of 1,500 sage-grouse (CDOW, unpubl. lit. 2004). In 2002, the Gunnison Basin had 40 active leks, 11 inactive leks, and 24 leks of unknown status. In 2001 there were 45 active leks, 11 inactive leks, and 19 leks of unknown status. The 2002 high male count was 617 (CDOW, unpubl. lit. 2002) for a minimum spring population estimate of 1851. This was down 95 males or 285 total sage-grouse from 2001, which had 712 males or a total population estimate of 2136. In 2000 there were 636 males (1908 spring population estimate) and in 1999 there were 723 males (2169 spring population estimate).

In 2003, Pinon Mesa had four active leks with 23 males counted representing a total minimum spring population estimate of 69 (CDOW, unpubl. lit. 2004). In 2002, the Pinon Mesa population had four active leks, one inactive lek, and one possible new lek of unknown status. There are also at least four other old historic leks. The high male count was 27 (CDOW, unpubl. lit. 2002) representing a minimum spring population estimate of 81. Pinon Mesa had 31 males counted in 2001 or a minimum of 93 sage-grouse. This was only down slightly from 33 males counted in 2000. Some of the Pinon Mesa birds will winter just over the Utah border in Grand County.

In 1999, the Poncha Pass population only had one male and five females in it. Consequently, Poncha Pass received 24 Gunnison sage grouse from the Gunnison Basin in spring 2000, 20 sage grouse in spring 2001, and 7 of 14 proposed sage-grouse were released in fall 2002. There were only three males counted on a lek in Poncha Pass in 2001, for a minimum population estimate of nine, but through radio-telemetry it was known that there were more transplant survivors. In 2002, a high count of 9 males occurred on the only known lek (CDOW, unpubl. lit. 2002) representing a minimum spring population estimate of 27 sage grouse. In 2003, 7 males were counted on the lek for a total minimum spring population estimate of 21 (CDOW, unpubl. lit. 2004).

In the San Juan County, Utah population in 2003 there were 30 males counted on four leks representing a total minimum spring population of 90 sage-grouse (CDOW, unpubl. lit. 2004). In the San Juan County, Utah, population in 2002 there were 4 of 5 known leks that had strutting males with 35 males counted (San Juan County Working Group, unpubl. lit. 2003) representing a minimum spring population estimate of 105 sage-grouse. The 2001 population had 47 males counted for a minimum of 141 sage-grouse. This was up slightly from the 1999 count which had 43 males.

The San Miguel Basin population is spread out over several areas and includes three known and active lek sites in the Beaver Creek sub-population, three known and active lek sites in the Dry Creek Basin sub-population, one known active and one historic lek site in the Gurley Reservoir sub-population, one known and active lek site in the Iron Springs sub-population, and two known and active leks in the Miramonte sub-population. One of the two leks in the Miramonte sub-population was found in 2003. For all leks in 2003, the number of males counted was 51, representing a total minimum spring population of 153 sage-grouse (CDOW, unpubl. lit. 2004). For all leks in 2002 there was a high male count of 73 (CDOW, unpubl. lit. 2002) representing a minimum spring population estimate of 219. In 2001 there were 84 males, for a minimum total

population of 252 sage grouse. The Iron Springs sub-population was newly discovered in 2001 and contains one known lek with a second unconfirmed lek discovered in 2002. Two new lek sites in the Beaver Mesa sub-population were also discovered in 2001, which raised the number of birds in this population from previous years in the recent past.

Overall, in 2003 there was a rangewide population decrease of 22% from 2002 and a 31% decrease from 2001. Further declines are expected in population numbers in 2004 due to drought related habitat effects from the 2002 drought and drought conditions that have persisted in some portions of the Gunnison sage-grouse range for up to eight years (CDOW, unpubl. lit. 2004).

Long-term trends since at least the 1970s have shown steady declines in the number of males/lek rangewide. For the Gunnison sage grouse, the only long-term data set is in the Gunnison Basin, which typically had at least 50 males/lek in the 1950s and 1960s and up to 120 in 1953 (Fish and Wildlife Service (FWS), unpubl. data 2002). Starting in the 1970s there has been a gradual decline with only about 15 males/lek in the last couple of years. The highest number of males in a lek in the Gunnison Basin in 2003 was 35; however, the majority of leks had far fewer males than this. The number of males per lek in the Gunnison Basin declined to 12.5/lek in 2003 versus 15.4 males/lek in 2002. Also, in the Gunnison Basin three-year moving averages of the number of males have been calculated for hunting purposes (although hunting was discontinued in 2000). The three-year moving average in 2001-2003 (610 males) was down 6.9% from the 2000-2002 moving average. The three-year moving average was down 5 percent in 2000-2002 (655 males) versus the 1999-2001 moving average (688 males) and the 1-year decline between 2002 and 2001 was 13 percent.

The Gunnison sage-grouse uses a variety of habitats throughout the year but the primary component necessary is species of sagebrush (*Artemisia* spp.) (Braun 1995). The most important sagebrushes are subspecies of big sagebrush (*A. tridentata*). Sagebrush is used for hiding and thermal cover as well as a major source of food in the winter (Hupp and Braun 1989). From mid-March to early June males will display on leks (strutting grounds) that are open areas with good visibility (for predator detection) and acoustics (for transmission of male display sounds). After mating, females will select nest sites, typically in relatively tall and dense stands of sagebrush from 200 yards (183 m) to 5 miles (8 km) away from the leks. Nest sites selected have residual grass and forbs that provide additional hiding cover. Hens with chicks remain in sagebrush uplands if hiding cover is adequate and if food consisting of succulent forbs and insects are available. As chicks mature and vegetation in the uplands desiccates, hens will move their broods to wet meadow areas that retain succulent forbs and insects through the summer (Klebenow 1969, Wallestad 1971). Preferred wet meadow areas also contain tall grasses for hiding and at least 165 yard-wide (150m) sagebrush stands (Dunn and Braun 1986) along the periphery for hiding and foraging areas. Unsuccessful hens and males follow the same pattern but are less reliant on wet meadows. After significant rainfall events (greater than 0.2 inches (0.5 cm)) hens with broods will often use upland areas that have responded to the rain with additional succulent plant growth. From mid-September into November all sage-grouse will use upland areas with 20 percent or greater sagebrush cover and some green forbs. As winter progresses and snow cover is extensive (greater than 80 percent) and deep (greater than 12 inches (30 cm)), sage-grouse forage in tall sagebrush (greater than 16 inches (41 cm)) in valleys

and lower flat areas (Hupp and Braun 1989) and roost in shorter sagebrush along ridge tops.

Roosting and foraging is typically restricted to south or west facing slopes where snow is often shallower and less extensive (Hupp and Braun 1989). Small foraging areas that have 30-40 percent big sagebrush canopy cover are also important.

## **THREATS:**

### A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range.

The range of the Gunnison sage-grouse has been reduced to less than 25 percent of its historic range (Braun 1995). Size of the range and quality of its habitat have been reduced by direct habitat loss, fragmentation, and degradation from building development, road and utility corridors, fences, energy development, conversion of native habitat to hay or other crop fields, alteration or destruction of wetland and riparian areas, drought, inappropriate livestock management, competition for winter range by big game, and creation of large reservoirs.

Building and town development has caused direct loss and fragmentation of habitat as well as indirect losses through degradation of surrounding habitat by human activities. Land subdivision was identified as a major threat in the Gunnison Basin population (CDOW, Habitat Section, unpubl. lit. 2002). The human population in Gunnison County is approximately 14,500 and is expected to grow by about 13 percent by 2010 and 31% by 2025 (State of Colorado, Division of Local Affairs, Demographic Section, [www.Colorado.gov](http://www.Colorado.gov) 2003). Whether homes for the additional people will be placed in sage-grouse habitat is unknown but private land is scattered throughout Gunnison Basin. There are no population growth estimates for the portion of Saguache County that constitutes approximately 1/4 of the sage-grouse range in the southeastern portion of the Gunnison Basin, but growth projections for Saguache County overall are 9% by 2010 and 23% by 2025. There are only approximately 6,150 people in all of Saguache County currently and likely between 100 and 500 in the Gunnison Basin portion.

The Cerro Summit/Cimarron sub-population has had parcels of land exchange hands frequently in the last year but this has currently not posed a threat, as little development has occurred and most parcels are still over 200 acres (CDOW, unpubl. lit. 2002). The rural character of the area may preclude major subdivision. Potential development in the Sims Mesa sub-population was described as the most obvious threat to the birds in those areas (CDOW, unpubl. lit. 2002). This sub-population has a large percentage of private land in the middle of its range and possible development in the near future poses a threat (CDOW, unpubl. lit. 2002). The historic range of the sage-grouse in the Crawford Area population has had minor impacts from housing development and the current range also has a minor threat of development impacts (CDOW, unpubl. lit. 2002). A subdivision in Dove Creek is the most significant threat to that population (CDOW, unpubl. lit. 2002). The 3000-acre subdivision lies in the core of the sage-grouse range north of Dove Creek. It currently only has seven cabins or homes due to lack of utilities but if utilities become available development would undoubtedly increase. The Ohio Creek drainage area in the Gunnison Basin contains a lot of private land and has high potential for development; however, a 4700-acre conservation easement was secured there in 2003 on the Ochs Ranch (CDOW, unpubl. lit. 2004). Other areas in the Gunnison Basin also have quite a bit of private land but some areas have already been placed under conservation easements. Conservation

easements with only an AOpen Space@designaion may provide some benefit to the sage-grouse but also may not if the land is not in suitable condition. There was no new development in either 2002 or 2003 in sage-grouse habitat in Gunnison County (Gunnison County, unpubl. lit. 2003, CDOW, unpubl. lit. 2004). However, impending development of 35+acre lots on the Elk and Horse River Ranch may impact some sage-grouse habitat but the owner(s) has expressed willingness to conserve some of the habitat for sage-grouse. Subdivision is an existing and long-term potential threat within the current range of the Pinon Mesa population (CDOW, unpubl. lit. 2002). Development and other land uses around the Glade Park area of the Pinon Mesa population may preclude reestablishment of the sage-grouse there. The Poncha Pass population has had minor impacts to its historic range by housing development. With its scenic value and ease of access, the potential for future recreational home site development is great. Many parcels of land are currently for sale but sales have currently been slow (CDOW, unpubl. lit., 2002). Housing development in the San Juan County, Utah population is not a serious threat currently and most likely will not be in the foreseeable future (Laura Romin, FWS, pers. comm 2003). Residential development was identified as the most pressing threat to the Iron Springs sub-population and may pose a risk to the southern end of the Beaver Mesa sub-population in the San Miguel Basin population (CDOW, unpubl. lit. 2002). Currently, development has occurred in forested areas but sagebrush habitat has been parceled for development. The Gurley Reservoir sub-population has potential for development but currently the parcels are not selling quickly (CDOW, unpubl. lit. 2002). The Dry Creek Basin sub-population of the San Miguel Basin population has little expected threat from development (CDOW, unpubl. lit. 2002). The Miramonte Reservoir sub-population has a long-term threat of summer and/or residential home development. Currently there are no homes being developed in sagebrush habitat (Greager Flats) and the highest potential for development is at the edge of Greager Flats in the trees (CDOW, unpubl. lit. 2002).

Roads, utility corridors, and fences have also caused direct loss and fragmentation of habitats in all the populations. Gunnison sage-grouse have been known to get hit on roads and fly into fences resulting in death or injury (Clait Braun, CDOW, pers. comm. 1999). Energy development such as gas and oil wells, (San Miguel Basin population), gas pipelines (San Miguel and Dove Creek populations), uranium mill tailings placement (Gunnison Basin population), and coal mines (San Miguel Basin population) have all caused destruction and fragmentation of sage-grouse habitat. Large reservoirs such as Blue Mesa Reservoir in the Gunnison Basin population and Miramonte Reservoir in the San Miguel Basin population have flooded habitat for the sage-grouse. Conversion of native habitat to hay or other crop fields has impacted all areas of the grouse=s range. Though some crops such as alfalfa and young bean sprouts are eaten or used for cover by sage-grouse (Clait Braun, CDOW, pers. comm. 1998), crop monocultures generally do not provide adequate food or cover. Alteration or destruction of wetland and riparian areas has also occurred from various activities, reducing brood rearing areas in all populations. Livestock grazing at inappropriate levels has resulted in lack of cover and forage over all areas and the areas may still suffer from degradation of soil and water conditions.

In the largest population area, the Gunnison Basin, the BLM manages approximately 54% of the area identified as overall sage-grouse range. In 2002, it was estimated that 50% of the Wyoming big sagebrush/Indian ricegrass ecological series, which account for a significant portion of the

nesting/early brood rearing habitat on the BLM lands, did not meet the desired condition for nesting/early brood rearing as described in the Gunnison Basin Gunnison Sage-grouse Conservation Plan. Additionally, of the 80,000 acres of nesting/early brood rearing habitat monitored in the Gunnison Basin in 2003, 25% did not meet short-term habitat objectives (BLM unpubl. lit. 2004). The condition of nesting/early brood rearing and brood rearing habitat worsened as a result of the 2002 drought. In 2003, observations in the Gunnison Basin revealed reduced plant productivity, cover, diversity and structure. Many herbaceous plants, used for nesting/early brood rearing, did not recover from the drought. The ecological status for at least 50% of the 360 miles of lotic riparian areas (excludes lentic seeps and springs not connected to streams), which are important for brood rearing, did not meet the long-term objectives for desired habitat conditions stated in the Gunnison Basin Sage-grouse Conservation Plan and 15% (of the 70 miles monitored) did not meet short-term stubble height objectives. However, the 85% that did meet short-term stubble height objectives in 2003 was likely as a result of reduced grazing and resiliency of riparian areas due to availability of water (BLM unpubl. lit. 2004).

B. Overutilization for commercial, recreational, scientific, or educational purposes.

The sage-grouse has not been overutilized for commercial, scientific, or educational purposes. Some of the smaller populations may have been over utilized for recreational purposes by legal and illegal hunting. The Gunnison Basin population had a hunting season through 1999 but none of the other populations have been included in a hunting season for many years. It is debatable whether or not hunting impacted the Gunnison Basin population. It is unlikely that populations including the Gunnison Basin will have a hunting season on them in the foreseeable future. With increased awareness of the plight of the sage-grouse by the public, and increased attention by State wildlife law enforcement personnel, it is believed that little illegal hunting currently occurs and may be limited to incidental shootings. Return of sage-grouse to leks where they had previously been captured during past studies using banding and radio marking, indicate that these studies did not affect them (Dr. Clait Braun, CDOW, pers. comm. 1997). However, extensive capture and radio-marking of sage-grouse, especially on small populations during spring mating season, may have an impact on the populations by disrupting mating activities.

The Gunnison sage-grouse is a newly designated species which prompts bird watchers to view the sage-grouse for their life lists and may lead to disturbance in commonly known lek sites or lek sites that become known in the future. There is some concern over disturbance by birdwatching in the Gunnison Basin and Crawford Area population (Doug Homan, CDOW, pers. comm. 2002).

C. Disease or predation.

No disease problems have been detected, but it is possible that nonnative birds, primarily pheasants and chukars, will transmit diseases such as blackhead (Dr. Clait Braun, CDOW, pers. comm. 1999). Predation has been observed by coyotes (*Canis latrans*), bobcats (*Felis rufus*), ground squirrels (*Spermophilus* spp.), weasels (*Mustela* spp.), skunks (*Mephitis mephitis*), badgers (*Taxidea taxus*), golden eagles (*Aquila chrysaetos*), goshawks (*Accipiter gentilis*), and ravens (*Corvus corax*) on nests, juveniles, or adults. Structures such as fences, buildings, and

utility poles provide hunting perches for raptors. If these structures are placed near lek sites they can be detrimental due to exposure of sage-grouse on the leks.

West Nile Virus has not been detected in Gunnison sage-grouse, but a sick golden eagle found several miles southeast of Gunnison in fall 2003 tested positive for West Nile Virus (CDOW, unpubl. lit. 2004). This confirms that the virus moved into the Gunnison Basin in fall 2003. Based on greater sage-grouse mortality from West Nile Virus in Wyoming and other parts of their range, an indeterminable level of impact to Gunnison sage-grouse is expected in 2004. West Nile Virus has the potential to negatively influence the status of the species rangewide due to the small sizes of most Gunnison sage-grouse populations.

#### D. The inadequacy of existing regulatory mechanisms.

The Gunnison sage-grouse is a sensitive species in Colorado and Utah. The CDOW and Utah Division of Wildlife Resources have authority for setting hunting seasons and possession limits and for enforcement against poaching and harassment. However, the State wildlife agencies do not have authority for protecting against habitat loss. Furthermore, Federal land management agencies do not have authority to protect against habitat loss on private land.

Gunnison County has the bulk of the remaining Gunnison sage-grouse population and the Board of County Commissioners of Gunnison County, Colorado, has authority to protect and promote the health, welfare and safety of the people of Gunnison County, and the authority to regulate land use, land planning and quality and protection of the environment in Gunnison County, and has duly adopted regulations to exercise such authorities including the review, approval or denial of proposed activities and uses of land and natural resources. Gunnison County passed Land Use Resolutions (LUR=s) in 2001 to include conservation for the sage-grouse that can be used to regulate private land development. However, in 2003, many of these Land Use Resolutions were withdrawn or revised to an extent that they offer little protection for the sage-grouse. Other Counties harboring the grouse do not have LUR=s to include protections for the Gunnison sage-grouse.

Many actions have been taken on private land to conserve the sage-grouse (see Prelisting Action section below), and the willingness of the landowners to carry out these actions offers great prospects for conservation of the Gunnison sage-grouse on private land. However, current unwillingness of some important landowners to take actions to conserve the sage-grouse in a couple of the populations illustrates the potential ineffectiveness of voluntary efforts. A rangewide Conservation Plan is needed to direct rangewide population goals, transplant/genetic needs, and reestablishment of habitat linkages between populations and sub-populations. Furthermore, participation in State and Federal programs directed towards private land management is voluntary and dependent on program funding. Actions carried out on Federal lands are also dependent on funding. Wildlife programs of the BLM and Forest Service have received little funding in recent years and further habitat improvements are needed, especially on BLM land, which is the majority of the Federal land ownership.

#### E. Other natural or manmade factors affecting its continued existence.

Other factors affecting the Gunnison sage-grouse's continued existence include fire suppression allowing encroachment into its habitat by pinyon (*Pinus edulis*), juniper (*Juniperus* spp.), and oakbrush (*Quercus gambelii*); fire suppression resulting in decadent stands of the sagebrush community; invasion of non-native plants; overgrazing by elk (*Cervus elaphus*) and deer (*Odocoileus hemionus*); drought; disturbance or death by off-highway-vehicles (OHV=s); disturbance by construction projects; harassment from people and pets; continuous noise that impairs acoustical quality of leks; genetic depression; herbicides, pesticides, and pollution; and competition for habitat from other species. Small size of most of the populations may exacerbate impacts of relatively small threats included in the previous sentence.

Fire suppression has allowed pinyon and juniper trees to invade sagebrush habitat. If dense enough, the pinyon and juniper trees crowd out sagebrush and understory forbs and grasses. The trees also provide perches for raptors; consequently, sage-grouse avoid areas with pinyon-juniper invasions and suffer from higher predation rates if they occupy sagebrush habitats near them (Commons et al. 1999). Fire suppression has also caused decadent stands of sagebrush that may provide less canopy cover and less forage. Oakbrush invasion as a result of fire suppression was identified as a threat in the Cerro Summit/Cimarron sub-population and may impact a portion of the Dove Creek, Pinon Mesa, and San Miguel Basin populations (CDOW, unpubl. lit. 2002). However, sage-grouse have been observed, visually and through radio-telemetry, in oakbrush stands in Dove Creek and in 2002 during the summer in the Iron Springs and Beaver Mesa sub-populations of the San Miguel Basin population. The Iron Springs and Beaver Mesa birds using the oakbrush stands did not suffer higher rates of depredation. It was hypothesized that oakbrush may provide some benefit to foraging especially in drought years when the herbaceous understory may be less affected than in more open sagebrush stands (CDOW, unpubl. lit. 2002). Consequently, extensive oakbrush removal could be a threat to the sage-grouse. Any removal plans should consider leaving some stands of oakbrush based on expanse of the stands, invasion of oakbrush into historical sagebrush stands, and observations of oakbrush use by the area=s sage-grouse.

Cheatgrass (*Bromus tectorum*) has invaded large areas of the Great Basin, which occurs in portions of Idaho, Nevada, Oregon and Utah, causing severe degradation or elimination of the sagebrush communities. In the Great Basin, cheatgrass thrives after fires and creates an unhistorically frequent fire cycle that does not allow sagebrush communities to reestablish themselves. Cheatgrass invasion was noted after a wildfire on Pinon Mesa but is not currently a major threat in the Pinon Mesa population (Van Graham, CDOW, pers. comm. 2003). Cheatgrass also occurs in late seral sagebrush in Dry Creek Basin within the San Miguel Basin population (CDOW, unpubl. lit. 2002) but is not currently considered to be a major threat (Jim Garner, CDOW, pers. comm. 2003). The Gunnison Basin also has cheatgrass and until 2003, infestations appeared to be primarily limited to roadsides, parking areas, several campgrounds, old sheep bedding grounds, one wildfire area in the western end of the Basin, a few grazing allotments, and some big game winter concentration areas (BLM, unpubl. lit. 2002; CDOW, unpubl. lit. 2002). There were 17 acres of cheatgrass mapped in the areas described above (BLM, unpubl. lit. 2002, CDOW, unpubl. lit. 2002, Gunnison Basin Weed Commission, unpubl. lit. 2002). However, in 2003, increased rainfall appeared to increase extent of cheatgrass

invasion and 75 acres were sprayed. New infestations were found in the Dutch Gulch area and the Wiley Ridge and Camp Kettle Road burn areas. Furthermore, observations in 2003 indicate that cheatgrass is rapidly invading along the Doyleville cutoff road and along Highway 114 (BLM, unpubl. lit. 2004). Future research and monitoring planned by Colorado State University Agricultural Extension Office, Western State College, and possibly other entities, may reveal the extent of cheatgrass invasion threat in the Gunnison Basin and elsewhere in Colorado. Though fire suppression may allow trees to invade sagebrush habitat types, use of fire as a tool to restore habitats must be used cautiously to avoid cheatgrass or other non-native weed invasions. Other non-native weeds in the Gunnison Basin are also a potential threat in some areas but will continue to be managed (Gunnison County Weed Commission, unpubl. lit. 2002).

Overgrazing by elk and deer may cause local degradation of habitats by removal of forage and residual hiding cover in the spring. Impacts by elk and deer are potentially greater in smaller sage-grouse population areas due to more restricted habitat availability in those populations. Disturbance by OHV=s, construction projects, and harassment by people and pets can all lead to nest abandonment or even death of adults and chicks. Recreational impacts from hikers, mountain bikers, and OHV=s has impacted some portions of the current range especially portions of the Gunnison Basin and Sims Mesa sub-population (CDOW, Habitat Section, unpubl. lit. 2002). Noise from activities that impair acoustical qualities of leks will result in fewer females being attracted to the leks and, thus, less reproduction.

The extreme drought of 2002 likely affected all sagebrush habitat in sage-grouse population areas in Colorado and Utah. Drought is also probably a greater factor in smaller populations when sage-grouse in those populations have limited habitat that is supporting them. In the Gunnison Basin an estimated 1/3 of each big sagebrush plant was defoliated in 2002. The drought started in 2001 in the Gunnison Basin resulting in little herbaceous growth that year and possibly could have contributed to the 13% decline in males counted on leks in 2002 versus 2001. Pinon Mesa has had abnormally dry or drought conditions for four years, which may have contributed to a downturn in lek counts the last two years (CDOW, unpubl. lit. 2002). Monitored nests in 2002 had a 67% success rate in the Gunnison Basin, which is considered good, but some populations had 0% nest success and rangewide monitored nest success was only 24% (CDOW, unpubl. lit. 2002), which could have been caused by the drought. Effects of the 2002 drought appeared to be evident through lek counts in 2003 and further declines are expected in 2004 when male chicks raised in 2002 attend the leks.

The Gunnison sage-grouse appears to have little genetic diversity (Kahn et al. 1999). Human caused changes, especially over the last hundred years, have separated the sage-grouse into several populations resulting in little or no chance of genetic interchange between those populations. Small, isolated, populations may suffer from genetic depression or homogeneity causing physical problems and eventual extirpation of the population. In order for the little genetic diversity that does exist to be maintained, especially between the smaller populations of sage-grouse, it is likely that habitat linkages will need to be reestablished or transplanting individuals from other Gunnison sage-grouse populations will need to continue. CDOW collected additional genetic samples in 2002 and requested \$75,000 from the Colorado Species Conservation Trust Fund for analysis in their fiscal years 2003 and 2004 (CDOW, unpubl. lit. 2002).

Large-scale herbicide spraying on native habitats will fragment and reduce cover and forage for the sage-grouse. Pesticide spraying can reduce or eliminate insects necessary for healthy chicks. Pollution from human-caused activities could impact the sage-grouse in local areas.

Competition for food could occur in riparian areas and wet meadow areas where preferred pheasant habitat overlaps with primary brood rearing habitat. Competition by pheasants is not likely a substantial threat to the Gunnison sage-grouse, particularly given that the CDOW does not plan to release pheasants in these areas (P. Schnurr, CDOW, pers. comm., 2002).

**FOR RESUBMITTED PETITIONS:**

- a. Is listing still warranted? Yes
- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? Yes
- c. Is a proposal to list the species as threatened or endangered in preparation? No
- d. If the answer to c. above is no, provide an explanation of why the action is still precluded:  
Since publication of the 2002 CNOR, the publication of a proposed rule to list this species has been precluded by other higher priority listing actions, and based on work scheduled we expect that will remain the case for the remainder of Fiscal Year 2004. Almost the entire national listing budget has been consumed by work on various listing actions taken to comply with court orders and court-approved settlement agreements, emergency listing, and essential litigation-related, administrative, and program management functions. The Service does not believe that emergency listing is warranted at this time based on the large population remaining in the Gunnison Basin and continued pre-listing conservation actions by the CDOW, BLM, NRCS and other organizations (as described in the Pre-listing Conservation section below) including securing or near completion of conservation easements, fee title acquisitions, habitat treatments, continuation of efforts for development of the Rangewide Conservation Plan and an umbrella Candidate Conservation Agreement with Assurances, and funding of these efforts. During the past 12 months, almost all of the Fish and Wildlife Service's budget for listing actions has been needed to take various listing actions to comply with court orders and court-approved settlement agreements. We will continue to monitor the status of Gunnison sage-grouse as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures.

**LAND OWNERSHIP:**

No more than 530,000 acres (215,000 ha) are currently occupied by Gunnison sage-grouse in Colorado and between 66,000 and 336,000 acres (136,000 ha) are occupied in Utah for a total of 596,000-866,000 acres (351,000 ha) rangewide. Landowners include the BLM, Forest Service, National Park Service, State of Utah, State of Colorado, Ute Mountain Ute Tribe, and private landowners. Amongst all the populations, the total acreage of land and the percentage of land privately or federally owned within each population is highly variable. The Gunnison Basin population currently contains approximately 250,000 acres (81,000 ha) or up to 42 percent of the current species' range versus the Sims Mesa sub-population that contains about 7,800 acres

(3,100 ha) or 1 percent of the current range. Some populations, such as Dove Creek, have 90 percent private ownership and 10 percent BLM ownership whereas the Poncha Pass population only has 30 percent private ownership and 70 percent State and Federal ownership. Overall, approximately 47 percent of the current range of the Gunnison sage-grouse is privately owned, 46 percent is federally owned, 5 percent is State owned, and 2 percent is owned by Indian Tribes. Of the Federal landowners, the BLM manages approximately 41 percent of the current range, the Forest Service manages about 4 percent of the current range, and the NPS manages about 1 percent of the current range.

#### **PRELISTING:**

Working Groups consisting of Federal and State agencies, County representatives, livestock organizations, environmental organizations, and private landowners have completed six local Conservation Plans in Colorado and one for the Utah population. The six plans in Colorado are for the Crawford area near Crawford and Hotchkiss, the Dove Creek area near Dove Creek, the Gunnison Basin around the town of Gunnison, the Pinon Mesa area south of Grand Junction, the Poncha Pass area near Villa Grove in the northern San Luis Valley, and the San Miguel Basin near Norwood. The Conservation Plan for the population in Utah, addresses the birds around the town of Monticello in San Juan County. It is doubtful that a local conservation plan will be written for sage-grouse in the Cerro Summit/Cimarron/Sims Mesa population. However, a Gunnison Sage-grouse Rangewide Conservation Plan has been initiated and will address areas not covered by the local plans. The intent of the Rangewide Conservation Plan is to address issues of rangewide importance not addressed by the local conservation plans. These include actions to direct management in historical areas and linkages currently unoccupied by the sage-grouse, direct management in small occupied areas without plans, direct research on minimum viable population sizes, direct research and decide upon or possibly develop the best population estimator, direct research and management for genetic diversity, direct management of sage-grouse viewing sites, and help determine priority areas for conservation actions and funding. The CDOW has the lead for the Rangewide Conservation Plan development. The CDOW has hired a writer/editor for the Rangewide Conservation Plan and has organized a Steering Committee that is writing the Plan. The Steering Committee has also established a Science Team and a Review Team for technical and biological input. Additional input will be made available to local Working Group members or representatives and interested stakeholders.

The CDOW has provided funding for various actions on private, State and Federal lands, with about \$250,000 each year from 1996 to 2001 plus \$2.5 million for conservation easements in 2001. Starting in 2002, The Great Outdoors Colorado Trust Fund in partnership with the CDOW, private landowners, non-governmental organizations, and the Department of Interior, established a three to five year funding program, entitled the Colorado Species Conservation Partnership, that is projected to provide up to \$25 million to three landscapes Statewide, including sage-grouse conservation for conservation easements, management agreements, and stewardship incentives for private landowners. In 2003, the CDOW provided \$130,000 to habitat improvement projects, \$16,000 to Best Management Practices Guidelines development, \$7,000 for West Nile Virus research, up to \$6,000,000 for fee title acquisition, \$2,070,000 for a conservation easement, \$15,000 for a proposed Statewide Candidate Conservation Agreement with Assurances, \$58,000 for development of a Rangewide Conservation Plan, \$25,000 for

genetic research, and \$80,000 for research in behavioral and genetic characterization of the Gunnison sage-grouse mating system. Furthermore, the CDOW is already scheduled to spend an additional \$40,000 on West Nile Virus research in 2004, \$275,000 for a conservation easement in the Crawford population, and \$73,000 on further behavioral and genetic characterization research in 2004 (CDOW, unpubl. lit. 2004). The BLM spent up to \$1,000,000 rangewide for Gunnison sage-grouse conservation efforts in 2003 (BLM, unpubl. lit. 2004).

A large effort, that will provide distribution, movement, habitat use, survival, nest success, and genetic information for the Rangewide Conservation Plan, was put forth by the CDOW and the State of Utah in 2002 through trapping, radio-tagging, and collection of blood samples for genetic analyses in all Gunnison sage-grouse populations in Colorado and Utah. There was much success with 143 sage-grouse captured in all populations. In 2001, the State of Utah also captured six Gunnison sage-grouse and fitted all of them with radio-tags for habitat use studies but no blood was drawn from them for genetic studies (Terry Messmer, Utah State University, pers. comm. 2003). In Colorado 94% of the birds captured had radio-tags fitted on them and 98% had blood drawn from them. Tracking of existing radio-tagged birds continued in 2003.

Conservation actions carried out by the States, BLM, U.S. Forest Service, NRCS, and other agencies from 1996 through 2003 include pinyon and juniper removal, brush beating to maintain leks and rejuvenate forbs and sagebrush, payments for non-use of farm or ranch lands, changes in grazing management, forbs and grass seeding, production of educational materials, habitat mapping, etc. Further details of conservation actions taken in each population follows.

Brush mowing on a State Wildlife Area occurred in 2000 in the Cerro Summit/Cimarron sub-population resulting in a new lek being established there in 2001. The State Wildlife Area has about 3,000 acres of sagebrush habitat. There is one conservation easement in the Cerro Summit/Cimarron sub-population on 1,200 acres that should protect habitat for the sage-grouse (CDOW, unpubl. lit. 2002). The same landowner expressed interest in developing a Candidate Conservation Agreement with Assurances (CCAA) with the FWS on this land. There are two other landowners interested in conservation easements, one with 300 acres and one with 3,200 acres. The Rocky Mountain Elk Foundation may help with the purchase of an easement on the 3,200 acre parcel, which is in the Cerro Summit area. The CDOW is not planning on pursuing an easement with the landowner with 300 acres until sage-grouse use can be confirmed on his property. In the Sims Mesa sub-population, one landowner has received preliminary approval for a Farmland Protection easement from the Natural Resources Conservation Service. Discussions with other landowners have occurred for protection of their land with mild interest for fee title purchases. The CDOW in partnership with the Uncompahgre Project is also pursuing the purchase of a BLM sheep-grazing permit on Sims Mesa. If successful the CDOW would rest the allotment for an extended period but would eventually sub-let the permit with tight restrictions on stocking rates and time frames (CDOW, unpubl. lit. 2002).

The Crawford Area population has had numerous management actions conducted on it in the core of the range. Residual nesting cover on at least 50% of the nesting area was left through June of 1998 and 1999. Stock water lines, ponds, and fences were also installed to better control grazing and save residual cover for nesting and hiding (FWS, unpubl. lit. 2002). Treatments include 1220 acres of brush beating from 1997-2000, 1965 acres of prescribed burning from

1997-1999, 600 acres of wildfire rehabilitation in 1999, rollerchopping brush on 1050 acres from 1998-2001, pinyon and juniper tree removal on 700 acres from 1997-2000, interseeding 20 acres with grasses and forbs in 1999, and creation of four wet seep areas from 1999-2001. In 2003 one additional water project and one 280 acre prescribed burn were carried out. The CDOW has nearly completed securing a 560 acre conservation easement on the last large tract of private land within the Crawford Area population. The land is within 1.5 miles of all of the leks in this population and, therefore, is a key piece of land for the sage-grouse.

In 1998, the FWS entered into a cooperative agreement with the CDOW which provided \$60,000 for sage-grouse conservation in the Dove Creek population (FWS, unpubl. lit. 1998). The conservation actions were carried out on private land and included reseeded 2000 acres of land, payments for no grazing or modified grazing, construction of fences to manage grazing, and payment for a 10-year agreement not to develop housing on 138 acres of land. The Dove Creek area had two landowners sign up for 20-year easements on 160 and 516 acres, respectively, in 2001 (CDOW, unpubl. lit. 2002). In 2002, there was another landowner who signed a 20-year, 120-acre conservation easement. A 240-acre tract in the Dove Creek population was purchased by the La Plata Open Space Conservancy and is scheduled for 120 acres of habitat improvements in future years. The Rocky Mountain Elk Foundation is currently in negotiation for the purchase of 1320 acres containing sage-grouse habitat, from which the CDOW would subsequently acquire a conservation easement. In 2002, a management agreement was secured on 200 acres that would provide for sagebrush habitat improvement. The NRCS also designated significant acreage in the Conservation Reserve Program as Conservation Priority Areas around the Dove Creek population. Around the Dove Creek, Colorado, area 138,000 acres were enrolled into CRP. The NRCS, in cooperation with the CDOW seeded newly enrolled CRP land around Dove Creek with a sagebrush mixture in 2000 but due to drought the sagebrush failed to propagate. These areas were replanted in 2001. Additionally, 400 acres of oakbrush were mowed with a hydroax in spring 2000 (CDOW, Habitat Section, unpubl. lit. 2002). A dixie harrow treatment with understory seeding occurred on 320 acres of sagebrush in 2002 (CDOW, unpubl. lit. 2002).

The FWS and BLM helped fund a fencing project that conserved about 200 acres of sage-grouse habitat in the Gunnison Basin through the Partners for Fish and Wildlife Program in 1998. Numerous small habitat treatments intended to improve habitat for sage-grouse have occurred on BLM land in the Gunnison Basin including brush beating to maintain leks, experimental chemical treatments to try to achieve age class diversity of sagebrush, brush mowing and interseeding experiments to refine methodology, and riparian stabilization projects. Through 2002, many conservation actions were accomplished in Long Gulch by BLM, CDOW, and NRCS personnel. These include the first year of mapping vegetation, 300 acres of brush mowing and seeding, setting up a 1-acre experimental mowing and seeding enclosure, an NRCS 70-acre mowing and 185-acre chemical treatment on a 3,000-acre ranch that borders Long Gulch, wetland and riparian restoration through willow sprig planting on the Dutch Gulch State Wildlife Area in Long Gulch, and the start of a fencing project around Dutch Gulch to better manage grazing and provide wetland protection. In other parts of the Gunnison Basin 30 acres of sagebrush was mowed, a Watchable Wildlife site was constructed, roads were closed on BLM land to protect leks and other roads were signed to help prevent vehicular damage to habitat, BLM built two new riparian enclosures on Tomichi Dome and Leaps Gulch and maintained four

others, and BLM reseeded 320 acres after the Wiley Gulch fire near Antelope Creek with sagebrush.

The Gunnison Field Office of BLM has incorporated Gunnison sage-grouse conservation objectives in many of their grazing permits and allotments consistent with their Resource Management Plan. All allotments within sage-grouse habitat in 2002 had non-use, partial use, adjustment of grazing seasons, reduced AUMs or a combination of the last three management actions, for the 2002 grazing season due to the 2002 drought. As of January 2003, 24% (15 of 62) of BLM grazing allotments in sage-grouse range in the Gunnison Basin had sage-grouse habitat objectives incorporated into them (BLM, unpubl. lit. 2003). The 15 grazing allotments with sage-grouse habitat objectives covered 45% of the overall sage-grouse habitat in the Gunnison Basin (BLM, unpubl. lit. 2003). In 2003, the number of allotments was reduced to 60 but the number of allotments with Gunnison sage-grouse habitat objectives incorporated into them increased to 18 (30%). These 18 allotments covered 50% of the overall sage-grouse habitat in the Gunnison Basin (BLM, unpubl. lit. 2004). However, sage-grouse habitat objectives were not being met in all the allotments. Furthermore, the USFS adjusted grazing management on 14 of their 20 allotments within sage-grouse habitat through complete or partial non-use and AUM reductions in 2002. The USFS also constructed a 10 acre riparian enclosure to benefit sage-grouse, conducted native species seeding over 20 acres on two different allotments, and closed 0.8 miles of road in sage-grouse habitat (USFS, unpubl. lit. 2002). Cheatgrass was sprayed over 30 acres throughout the Gunnison Basin and 47 acres of other noxious weeds were sprayed by the BLM in 2002 (BLM, unpubl. lit., 2002).

In 2001, as mitigation for a 320-acre land transfer from BLM to Gunnison County for a County Landfill, Gunnison County established a \$1.00 surcharge on every cubic yard of fill for the next 15 years. This is expected to generate \$54,000 annually for habitat enhancement projects. Gunnison County is cooperating with the FWS on development of a Candidate Conservation Agreement with Assurances for impacts of the County Landfill. The County has also provided \$284,000 of funding through their Land Preservation Board for conservation easements along Tomichi Creek in past years and has committed to contribute \$390,000 for an additional easement along Ohio Creek.

Acquisition of 320 acres of private property in the Gunnison Basin by the State occurred in 1999 and resulted in the area being designated as Dutch Gulch State Wildlife Area. The BLM purchased 1,734 acres of land in the Ohio Creek drainage important for sage-grouse in 2002. One 872-acre parcel of land was placed in a conservation easement in that drainage for a total of 2,606 acres conserved through 2002 (CDOW, unpubl. lit. 2002). In the Tomichi Creek drainage there was an 811-acre conservation easement put in place in 2002, adding to previous easements for a total of 7,129 acres. There was also a 560-acre conservation easement established in the Lake Fork of the Gunnison River drainage bringing the total land in easements in that drainage to 1,403 acres in three parcels. The potential land conserved if those easements are entered total 2,964 acres on five parcels in the Tomichi Creek drainage, 2,120 acres on one parcel in the Ohio Creek drainage, and 3,771 acres on three parcels in the Lake Fork drainage (CDOW, unpubl. lit. 2002). There are about 9,400 acres of easements placed on land in the Gunnison Basin as of this writing with another 11,255 acres pending availability of funds. Of the 9,400 acres of conservation easements about 75% have sage-grouse management plans accompanying them.

The other 25% of the land under easements are only non-development or Aopen space@ easements without plans specific for sage-grouse but there could be some habitat benefits on portions of land under these easements. All of the 11,255 acres of pending easements would have sage-grouse management plans accompanying them. In 2001 and early 2002, a total of 4.17% of the private land in the Gunnison Basin was protected by conservation easements that benefitted the Gunnison sage-grouse (CDOW, Habitat Section, unpubl. lit. 2002). Signed conservation easements in the Gunnison Basin covered 18.08% of lek sites, 8.26% of nesting/early brood rearing areas, 8.44% of brood rearing areas, and 11.61% of severe winter range within the range of the Gunnison Basin population (CDOW, Habitat Section, unpubl. lit. 2002). Percentages of habitat types covered by conservation easements in other populations were not available and Gunnison Basin percentages were not reported with CDOW information provided at the end of 2002, but percentages would be slightly higher in some or all categories.

In 1999, 17-23 acres of sagebrush around two historic lek sites in the Pinon Mesa population were brush beat to restore the leks. Additionally in 1999, 200 acres of sagebrush were mowed to enhance age-class diversity, reseeding and pinyon-juniper snag removal was conducted on 3,671 acres after the Fish Park wildfire, cutting of 139 acres of scattered pinyon-juniper was performed, and 818 acres of pinyon-juniper was roller-chopped in 2001 (CDOW, unpubl. lit. 2002). In 2002, there were 2,583 acres of pinyon and juniper trees rollerchopped on BLM and private land, cutting of scattered pinyon and juniper over a 1640-acre private parcel with an easement, 408 acres of trees cut as a fuel break on another ranch, and 2,433 acres of trees and sagebrush were burned in a wildfire on the Dierich Ranch. It is estimated that the Dierich Ranch wildfire will produce about 450 acres of suitable sagebrush habitat adjacent to currently used range (Van Graham, CDOW, pers. comm. 2003). Furthermore, there are 7171 acres of land in conservation easements within sage-grouse range around the Pinon Mesa population and the CDOW and Mesa Land Trust are negotiating with a landowner to place another 720 acres in a conservation easement. The conservation easements combined with public land allows 45% of the area to have long-term protection (CDOW, unpubl. lit. 2002).

The Poncha Pass sage-grouse population area had extensive sagebrush manipulations in the 1960's consisting primarily of plowing or chaining sagebrush and seeding non-native grasses. These manipulations primarily took place west of Highway 285 and resulted in hundreds of acres of sagebrush with the same age, structure, and canopy cover. Despite this, vegetation studies conducted in 2000 throughout the Poncha Pass population area indicate that the sagebrush habitat meets or exceeds national standards recommended for productive sage-grouse habitat (CDOW, unpubl. lit. 2002). There were no habitat treatments in 2002 and none are planned, but future distribution information may reveal lands used by the sage-grouse that are in need of improvements. In 2002, several families purchased a 575-acre parcel to preserve the parcel for the sage-grouse. Rather than a subdivision, the land will be maintained as rangeland with no fences. There is one 475-acre conservation easement that will likely proceed pending funding through the CSCP. Another parcel of land with potential for a 600-acre easement is tied up in litigation in a related land deal but once that litigation is completed it is likely that the easement will be completed (CDOW, unpubl. lit. 2002).

In San Juan County, Utah, 33,000 acres were enrolled in CRP under a Conservation Priority Area designation in 2000. All of the acreage in Utah, plus an additional 4,000 acres of CRP land

not in the Conservation Priority Area designation, were seeded with a mixture of plants, including sage brush, intended to benefit the sage-grouse. Reseeding may be necessary as the drought of 2002 did not facilitate seed germination. Some of the CRP fields were grazed in 2002 under a drought emergency but all of the fields grazed had exclosures built in them to monitor vegetation impacts (San Juan County Working Group, unpubl. lit. 2003). One landowner in the San Juan County, Utah population put 2,200 acres into a conservation easement in 2001. The land under the easement has had vegetative plantings, a water guzzler, and sprinkler system installed to provide wet meadow habitat (San Juan County Working Group, unpubl. lit. 2003). Two other conservation easements are being pursued around two of the lek sites and a third easement around a newly discovered lek may be pursued (San Juan County Working Group, unpubl. lit. 2003). There have also been conservation actions implemented by the UDWR such as vegetative planting in cooperation with private landowners (FWS, unpubl. lit. 2001). According to LandSat imagery and some ground truthing the breeding and brood rearing complexes meet or exceed vegetation standards in the San Juan County, Utah Conservation Plan for acreage, cover types, and percentage of cover.

DOW completed 350 acres of a proposed 600-acre mechanical sage-brush improvement project in the Dry Creek Basin sub-population of the San Miguel population in 2002 (CDOW, unpubl. lit. 2002). Mowing will create 1-5 acre patches of young age-class sagebrush stands to improve diversity and the areas will be reseeded with native vegetation. Additionally, invading pinyon/juniper will be removed. Efforts were suspended in 2003 due to the ongoing drought. In 2001, 40 acres of sagebrush were treated on CDOW land with brush mowing and seeding. Pinyon-juniper removal has also occurred in portions of the San Miguel population. A 2,200-acre parcel of land is being pursued for purchase by BLM in Dry Creek Basin. Additionally, San Miguel Open Space awarded \$245,000 for purchase of development rights on 240 acres on Hamilton Mesa and the agreement includes the option of an additional 950 acres in the future. Conservation easement discussions are ongoing with a group of people that own 918 acres of land in the Gurley Reservoir sub-population. A landowner in the Beaver Mesa sub-population has expressed interest in a conservation easement on his 4,400-acre tract and another landowner in the Iron Springs sub-population has expressed interest in an easement on his 385-acre tract. In 2000, the CDOW purchased 1,350 acres from a private landowner in the Miramonte Reservoir sub-population. Habitat improvements have started on this tract, consisting of livestock grazing removal, fencing, moving and reseeded a county road that passed through it, enhancement of water sources, and numerous erosion control efforts. In 2002, San Miguel Open Space awarded \$300,000 for the purchase of 290 acres on a parcel of land whose owner previously sold 320 acres to San Miguel Open Space in the Miramonte Reservoir sub-population. San Miguel Open Space has an option for purchase of another 160 acres from the same landowner (CDOW, unpubl. lit. 2002).

Pre-listing conservation actions continued in 2003 with 2644+ acres of habitat treatments in all Gunnison sage-grouse population areas implemented by the CDOW, BLM, or NRCS. Furthermore, 7,260 acres of conservation easements or fee title acquisitions were obtained or nearly completed in Colorado in 2003.

## **CONCLUSION:**

Despite development of the local Conservation Plans and numerous actions implemented under those Plans to date, all of the threats to the Gunnison sage-grouse, under the five listing factors, are still occurring, or have potential to occur. The Rangewide Conservation Plan is needed to better direct and prioritize large-scale conservation efforts. The BLM needs to conduct more habitat improvements for vitality of vegetation in the herbaceous understory and for the sagebrush overstory, especially in the Gunnison Basin, since about half of the grazing allotments are not meeting sage-grouse habitat objectives. In addition, the reduction of at least 75 percent of the Gunnison sage-grouse's historic range, existing or potential development and habitat threats to the Gunnison Basin population, and uncertain continued existence of the small, disjunct, populations outside of the Gunnison Basin population, leads us to believe that listing the Gunnison sage-grouse is warranted. Threats to the sage-grouse currently have not been eliminated or reduced enough through conservation actions to remove the potential need for listing. With population numbers already low, the threat of drought-related declines, coupled with other threats, is of concern. Not only did sage-grouse numbers decline in 2003 and will likely continue to decline in 2004, due to the ongoing drought, but it is unknown how long drought conditions may last. However, numerous conservation actions have occurred and funding and plans for additional conservation actions are in place. Unfortunately, beneficial effects of habitat treatments to sage-grouse population numbers may take one or more years for herbaceous plant treatments (likely a longer period under drought conditions) and ten or more years for sagebrush treatments. Based on information available to date, including continued and significant population declines in 2003, threats to the sage-grouse have increased in the last year due to drought-related effects to the habitat and effects to chick survival and recruitment, and relaxation of restrictions on land use in Gunnison County, which harbors the only large population of the bird.

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LISTING PRIORITY (place \* after number)

THREAT
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Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2*
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

**Rationale for listing priority number:**

*Magnitude:*

The magnitude of the threats is high, particularly historic and ongoing habitat loss from development and associated infrastructure, agriculture, and grazing practices, and poor condition of the remaining habitat due to indirect effects of these actions in combination with impacts and slow recovery of habitats due to drought, pinyon-juniper invasion, and, to a lesser extent, noxious weed invasion. Individual and cumulative impacts of these threats, along with numerous lower-magnitude threats, on these small, highly fragmented populations, lead to concern for the future of the species.

*Imminence:*

Based upon the numerous imminent and ongoing threats to the Gunnison sage-grouse, as described in this candidate and listing priority assignment form, the listing priority should be moved from a 5 to a 2. However, the Service does not believe that emergency listing is warranted at this time based on the large population remaining in the Gunnison Basin and continued pre-listing conservation actions by the CDOW, BLM, NRCS and other organizations (as described in the Pre-listing Conservation section) including securing or near completion of conservation easements, fee title acquisitions, habitat treatments, continuation of efforts for development of the Rangewide Conservation Plan and an umbrella Candidate Conservation Agreement with Assurances, and funding of these efforts.

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, annual retentions of candidates, removal of candidates, and listing priority changes.

Approve: Ralph O. Morgenweck  
Regional Director, Fish and Wildlife Service

March 12, 2004  
Date

Concur: Steve Williams  
Director, Fish and Wildlife Service

April 5, 2004  
Date

Do not concur: \_\_\_\_\_  
Director, Fish and Wildlife Service

\_\_\_\_\_  
Date

Director's Remarks:

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Date of annual review: March 18, 2004

Conducted by: Terry Ireland

Comments:

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