From:	Hansen, Craig
To:	Kate Norman
Subject:	Fwd: GRSG 2015: Materials for January RD Meeting
Date:	Tuesday, March 31, 2015 9:20:33 AM
Attachments:	20141209_GRSG_Hunting_PMExp_Rv_RD.docx 20150106_ExecutiveSummary_GeneticsWorkshop.docx 20150106_AnalysisMtg_ProposedApproach.docx 20150108_RDmtg_Agenda.docx

---

Hey Kate: Here's one email with the Summary out for review. Still looking. I'm pretty sure there was something from Mike saying "good to go."

--
Craig Hansen
U.S. Fish and Wildlife Service
(303) 236-4749
Schedule: M T Th F

---------- Forwarded message ----------
From: **Norman, Kate** <kate_norman@fws.gov>
Date: Tue, Jan 6, 2015 at 4:53 PM
Subject: Re: GRSG 2015: Materials for January RD Meeting
To: Richard Hannan <richard_hannan@fws.gov>, Noreen Walsh <noreen_walsh@fws.gov>, Ren Lohoefener <ren_lohoefener@fws.gov>, Theresa Rabot <theresa_rabot@fws.gov>, Michael Thabault <michael_thabault@fws.gov>, Nicole Alt <nicole_alt@fws.gov>, Michael Fris <michael_fris@fws.gov>, Mary Grim <mary_grim@fws.gov>
Cc: Alene Thomas <alene_thomas@fws.gov>, Trina Vigil <trina_vigil@fws.gov>, Matt Kales <matt_kales@fws.gov>, Amy Nicholas <amy_nicholas@fws.gov>, Angela Burgess <angela_burgess@fws.gov>, Craig Hansen <craig_hansen@fws.gov>, Holly Freifeld <holly_freifeld@fws.gov>, Kathy Hollar <kathy_hollar@fws.gov>, Shauna Ginger <shauna_ginger@fws.gov>

Good Afternoon-

As previously indicated, please find the remaining two documents (Expert Elicitation Executive Summary and Spring Workshop Proposed Approach) available on SharePoint and attached here for reference. I have also included a revised agenda and the revised EOC Presentation.

If you have any questions, please let me know.

Thanks,
K

Library View

https://portal.doi.net/usfws/SG/docs/Forms/0108.aspx

Materials for Review

1- Agenda
2- Expert Elicitation Genetics - Executive Summary and Report (provided separately)

3- Species Report Chapter Review Approach
4- Spring Workshops - Path to Decision Recommendation (provided separately)
5- Mitigation Framework, InfoGraphic
6- WAFWA EOC Presentation
7- Hunting Chapter Draft (please note: this draft does not incorporate all edits)

***Hard copies will be provided to each RD by their administrative support.*

On Tue, Dec 23, 2014 at 3:31 PM, Norman, Kate <kate_norman@fws.gov> wrote:

Good Afternoon-

In preparation for our meeting on January 8, 2015, please find materials for your consideration below. These materials are posted to the SharePoint site; they are included as attachments for reference.

Thank you and Happy Holidays!
K

Library View

https://portal.doi.net/usfws/SG/docs/Forms/0108.aspx

Materials for Review

1- Agenda
2- Expert Elicitation Genetics - Executive Summary and Report (will be provided separately)
3- Species Report Chapter Review Approach
4- Spring Workshops - Path to Decision Recommendation (will be provided separately)
5- Mitigation Framework, InfoGraphic
6- WAFWA EOC Presentation

***Hard copies will be provided to each RD by their administrative support.*

--
Kate Norman, Sage-Grouse Project Manager
U.S. Fish and Wildlife Service, Region 6
134 Union Blvd, Lakewood CO 80228
PO Box 25486, DFC, Mailstop 60120, Denver CO 80225
Office: 303-236-4214
Mobile: 703-927-2445
kate_norman@fws.gov

--
Kate Norman, Sage-Grouse Project Manager
U.S. Fish and Wildlife Service, Region 6
134 Union Blvd, Lakewood CO 80228
PO Box 25486, DFC, Mailstop 60120, Denver CO 80225
Office: 303-236-4214
Mobile: 703-927-2445

kate_norman@fws.gov

NOTE: This version of the Hunting Chapter was shared with outside experts, the project leader, HQ, and technical editor in December 2014; this version does not yet include all edits and is provided to RDs and ARDs as background information.

Chapter 1: Recreational Hunting

INTRODUCTION

Recreational hunting of greater sage-grouse (*Centrocercus urophasianus*; hereafter sage-grouse) takes place across the range in the majority of States (8 of the 11 in 2014) where sage-grouse occur. To date, the level of hunting mortality in the 2010s has been much lower than in past decades. This lower level of hunting mortality is the result of a more conservative, risk-averse management approach adopted by the States and has undoubtedly decreased the impact of recreational hunting on sage-grouse rangewide. Despite a lack of evidence to show that hunting is a primary factor driving sage-grouse population dynamics rangewide, negative impacts to local populations have been demonstrated.

THREAT DESCRIPTION

Recreational hunting of sage-grouse takes place throughout almost all of the species range. The overwhelming majority of recreational hunting mortality occurs during the State managed sage-grouse gun/bow hunting season in the fall and is the threat being considered below. State managed falconry hunting also occurs throughout most of the range, but is dispersed and limited. In 2010, the Service determined that the impacts of falconry hunting are likely negligible (75 FR 13910, p. 13965). We have no new information to indicate that determination should be changed. Illegal harvest (poaching) also occurs but is infrequent. In 2010, the Service determined that the impacts from poaching are likely negligible (75 FR 13910, p. 13965). We have no new information to indicate that determination should be changed. Sage-grouse have not been commercially harvested for many decades; therefore, commercial hunting no longer impacts the species. Given the lack of new information about falconry

and poaching and the continued absence of a commercial harvest, we will not discuss those threats further and will focus this assessment on recreational gun and bow hunting.

Historic source(s)

Greater sage-grouse have been hunted by humans throughout recorded history. Historically, the greater sage-grouse was heavily exploited by both commercial and sport hunting in the late 1800s and early 1900s (Patterson 1952, pp. 30–32; Autenrieth 1981, pp. 3–11). Prior to the 1900s sage-grouse were hunted year-round with no bag limit which resulted in significant population declines. Whereas declines in the 1960s and 1970s were considered primarily to be the result of loss of habitat quality and quantity, declines in the 1920s and 1930s were attributed to hunting (Connelly and Braun 1997, p. 2). State wildlife agencies were sufficiently concerned with the observed declines in the 1920s and 1930s that many closed their hunting seasons and others significantly reduced bag limits and season lengths as a precautionary measure (Patterson 1952, pp. 30–33; Autenrieth 1981, p. 10). By the 1950s, populations were considered recovered and sport hunting was again allowed (Patterson 1952, p. 242; Autenrieth 1981, p.11).

Sage-grouse hunting mortality has varied considerably following resumption of recreational hunting in the 1950s and at times likely reached above levels considered sustainable under current management recommendations (i.e., harvest of no more than 10 percent of the estimated fall population). In the 1960s, hunting mortality exceeded 120,000 individuals annually for 7 out of 10 years. Hunting mortality reached a maximum in the 1970s, being above 200,000 individuals in 9 of 10 years (Table 1). During the 1980s, harvest exceeded 130,000 individuals in 9 of 10 years. The harvest was above 100,000 annually during the early 1990s but in 1994 dropped below 100,000 for the first time in decades. Hunting mortality decreased significantly in the 2000s with an average annual mortality estimate of 31, 373 (Table 1). From 1962 to 2013 (time period with most complete records), the

majority of sage-grouse hunting mortality has occurred in Wyoming, Idaho, and Montana, accounting for at least 78 percent of the annual hunting mortality (Service 2014, unpublished data).

TABLE 1—Estimated rangewide greater sage-grouse hunting mortality by decade (Service 2014, unpublished data). Estimates of hunting mortality prior to the 1960s are incomplete or unreliable for most States. The values presented here are underestimates as no data were available for Idaho, Montana until 1962, for Colorado until 1968, for Nevada until 1965, for North Dakota until 1979, for South Dakota until 1973, and for California until 1983.

	Total	Average	Maximum	Minimum
1960s	1,514,811	151,481	265,589	118,263
1970s	2,322,581	232,258	323,555	196,874
1980s	1,646,610	164,661	237,451	105,689
1990s	909,674	90,967	166,034	48,044
2000s	313,731	31,373	43,540	20,680
2010-2013	82,899	20,725	27,786	13,603

.

Current source(s)

To date, hunting mortality in the 2010s has been much lower than in past decades (Table 1). In 2014, recreational hunting of greater sage-grouse will take place in 8 of the 11 States where sage-grouse occur. Sage-grouse are listed as a threatened species by the state of Washington (Stinson *et al*. 2004, p. 1) and hunting has been closed since 1988. Sage-grouse are designated as endangered in Canada and hunting is prohibited (Connelly *et al*. 2004, p. 6-3). North Dakota closed its hunting season in 2008 due to low lek count numbers and it has remained closed. South Dakota closed its hunting season in 2013 due to low lek count numbers and it will remain closed this year.

CURRENT IMPACTS

Mechanism

Direct mortality is the primary mechanism for impacts to sage-grouse (See Table 1). Sage-grouse are also injured by hunters during the hunting season. Birds injured in this way inevitably experience higher rates of mortality, either as a direct result of the injury or because of a potential increased risk of predation due to the injury. Birds injured by hunters are seldom retrieved or reported making estimates on these types of crippling losses difficult to obtain or monitor (Watson 2007, p.3; Caudill 2011, p. 10). Estimates of crippling loss for sage-grouse are rare. However, one recent radio-telemetry study estimated crippling losses from sage-grouse hunting on Parker Mountain in south-central Utah at 0 and 6.8 percent in 2008 and 2009, respectively (Caudill *et al*. 2014, p. 814). Potentially high and variable mortality from crippling loss could limit the ability of States to effectively maintain hunting mortality below levels considered sustainable under current management recommendations (i.e., harvest of no more than 10 percent of the estimated fall population).

In addition to direct mortality and injury, levels of disturbance increase with the increased human activity (e.g., vehicles, dogs, gunshot noise) in areas open to hunting. Hunters also often target areas of high resource value to sage-grouse (e.g., wet meadows). Targeting of such areas has the potential to bias hunting mortality more towards females and young that tend to aggregate in moist areas or could potentially result in avoidance of these areas during the hunting season (Connelly *et al.* 2000b, p. 230; Wik 2002, p. 34; Reese and Connelly 2011, p. 109). This type of disturbance currently impacts sage-grouse annually from 2 to 30 days depending on the State. Hunting also subjects populations to exploitation-induced selection that can have unintended and long-term negative consequences such as earlier maturation times, loss of genetic variation, reduced production, etc (Harris *et al*. 2002, p. 634; Allendorf *et al*. 2008, p. 327; Allendorf and Hard 2009, p. 9987; Bunnefeld *et al*. 2011, p. 1258).

Exploitation-induced selection, however, has never been examined in sage-grouse which adds to the uncertainty regarding impacts of hunting.

Results of impact (vital rate/population level effects (direct, indirect)

Sage-grouse hunting is regulated by State wildlife agencies and managed with the goal of maintaining a sustainable harvest. Sustainable harvest is based on the concept of compensatory and additive mortality (Connelly 2005, p. 7). The compensatory mortality hypothesis asserts that because sage-grouse produce many more offspring than can survive to sexual maturity, individuals lost to hunting represent losses that would have occurred anyways from some other source (e.g., starvation, predation, disease). Hunting mortality becomes additive if it exceeds natural mortality, ultimately resulting in a decline of the breeding population. A sustainable (compensatory) harvest occurs when hunting mortality is at a level that does not exceed natural mortality.

The validity of the idea that hunting is a form of compensatory mortality for upland game birds, including sage-grouse, has been questioned in recent years (Connelly 2005, p. 7; Gibson *et al*. 2011, p. 313; Reese and Connelly 2011, p. 101). Sage-grouse possess several life history characteristics which violate the assumptions of compensatory hunting mortality, making the potential for additive hunting mortality high. First, although high mortality during notably severe winters has been reported (Moynahan *et al*. 2006, p. 1536; Anthony and Willis 2008, p. 544), sage-grouse typically experience low over winter mortality (Connelly *et al*. 2000b, p. 22; Wik 2002, p. 40; Sika 2006, p. 80). Thus, the majority of individuals should successfully overwinter and join the breeding population in the spring (Wik 2002, p. 36). This suggests there is little potential for compensatory hunting mortality as birds lost to hunting likely would have otherwise survived to breed (Gibson *et al*. 2011, p. 309). Second, harvest management levels based on the concept of compensatory mortality assume the species under considerations is short-lived with high rates of reproduction resulting in a large surplus of individuals

available for compensatory hunting. Sage-grouse, however, are relatively long-lived with relatively limited reproduction (i.e., small clutch sizes and infrequent renesting attempts) (Schroeder *et al*. 1999, pp. 12–14; Taylor *et al*. 2012, p. 342.) Thus, there is little evidence that populations of sage-grouse produce large annual surpluses that would be available for compensatory hunting (Connelly *et al*. 2011a, pp. 66–67).

Additionally, as is the case for many other long-lived species, female survival has been shown to be a key element driving sage-grouse population growth (Taylor *et al*. 2012, p. 336). Females (adults and juveniles) typically comprise the majority of reported hunting mortalities. For example, of 151 radio-marked sage-grouse in southwest Idaho from 1999-2001, the overall average hunting mortality was 7.4 percent. However, the mortality was not distributed equally among sex and age classes. No adult males, 5.3 percent of juvenile males, 5.9 percent of adult females, and 18.1 percent of juvenile females experienced hunting mortality (Wik 2002, p. 42). Hunting was determined responsible for 42 percent of adult female mortality and for only 15 percent of adult male mortality in Idaho (Connelly *et al.* 2000b, p. 228). In 6 of the 15 years (40 percent) examined, female hunting mortality was estimated to have been above the currently recommended maximum hunting mortality rate of no more than 10 percent (Connelly *et al*. 2000b, p. 229). Male mortality exceeded 10 percent in only 2 of the 13 years (15 percent) examined. The potential for negative effects on populations by harvesting reproductive females has long been recognized by upland game managers (e.g., hunting of female ring-necked pheasants, (*Phasianus colchicus*), is prohibited in most States). Female sage-grouse continue to experience the majority of hunting mortality which increases the potential for negative long-term population level impacts of hunting mortality (Service 2014, unpublished data).

The higher proportion of females experiencing hunting mortality likely reflects to some degree the typically female skewed sex ratio frequently reported for sage-grouse (Connelly *et al.* 2011a, p. 66).

However, results from the hunting mortality studies mentioned above and from information gathered at wing barrel collection sites and from hunter surveys suggest that hunting may affect female and male sage-grouse differently (Christiansen 2014, pers. comm.; Service 2014, unpublished data). Specifically, females may be more susceptible to hunting mortality. Females may be selected intentionally (e.g., thought to taste better) or unintentionally due to their typically more clumped distribution on the landscape (Connelly *et al*. 2000b, p. 230; Christiansen 2014, pers. comm.). Selective hunting that alters the population structure of a species can result in a variety of unintended impacts (e.g., decreased population growth, increased extinction risk, changes in population cycles) (Bunnefeld *et al.* 2011, pp 1265–1266). The degree and impact of potentially selective hunting of females has not been examined in sage-grouse, but could have significant and likely negative impacts on the populations.

Various studies have attempted to determine whether hunting mortality in sage-grouse is compensatory or additive (Crawford 1982; Crawford and Lutz 1985; Braun 1987; Zunino 1987; Gibson 1998; Johnson and Braun 1999; Connelly *et al*. 2003; Sedinger *et al*. 2010; Gibson *et al.* 2011; Reese and Connelly 2011). Results have been contradictory. For example, Braun (1987, p. 139) found that harvest levels of 7 to 11 percent had no effect on subsequent spring breeding populations based on lek counts in North Park, Colorado. Johnson and Braun (1999, p.83) determined that overwinter mortality correlated with harvest intensity in North Park, Colorado, and hypothesized that hunting mortalities may be additive. In Montana, Moynahan *et al*. (2006, p. 1536) found that survival was lower in an area that allowed hunting compared to another area where hunting was closed, but note that the effect could not be definitely attributed only to hunting. Sedinger *et al*.(2011, p. 324–325) examined variation in survival of sage-grouse in Nevada and California and concluded that even if harvest was an additive source of mortality, other sources of mortality were more important in determining annual survival. The contradictions and weak support both for and against compensatory hunting mortality are likely a result

of differing methods, a reliance on correlation, an almost total absence of experimental data, and differing effects of hunting mortality due to a relationship between hunting mortality and habitat quality.

In recent years, the levels of hunting mortality (expressed as a percent of the estimated fall population) suggested as compensatory (sustainable) for sage-grouse have varied widely (30 percent (Autenreith 1981, p. 77), 20 to 25 percent (Braun and Beck 1987), 10 percent (Connelly *et al*. 2000a, p. 976), 11 percent (Sedinger *et al*. 2010, p. 331)). State wildlife agencies currently attempt to keep hunting mortality below 10 percent of the estimated fall population, based on recommendations by Connelly *et al*. (2000a, p. 976). Similar to other suggested rates of hunting mortality, this level has not been experimentally tested with regard to its impacts on sage-grouse populations.

There is a growing body of evidence that suggests sage-grouse populations in relatively poor habitats (i.e., isolated, fragmented, closer to urban centers) have a limited ability to withstand levels of hunting mortality that would have little or no impacts on populations in higher quality habitats (i.e., contiguous, relatively mesic (wet) habitats) (Gibson 1998, p. 15; Connelly *et al*. 2003, pp. 256–257; Reese and Connelly 2011, p. 109). In other words, the threshold value for a sustainable harvest could be lower or more variable for such populations, regardless of population size. For example, research conducted in Idaho showed that sage-grouse populations experiencing relatively higher levels of hunting mortality had slower population growth rates than populations experiencing light or no hunting mortality (Connelly *et al*. 2003, pp. 256–257). The effect was particularly pronounced in xeric (dry) habitats near human populations, which suggests that the impact of hunting on sage-grouse to some extent depends on habitat quality. Hunting mortality was also shown to have a negative impact on the population dynamics of an isolated population of sage-grouse in Long Valley, California, but appeared to have no effect on sage-grouse in Bodie Hills, California, a nearby population that is contiguous with adjacent occupied areas of Nevada (Gibson 1998, p. 15). Data indicated that hunting suppressed the population

size of the isolated Long Valley population well below the apparent carrying capacity (Gibson 1998, p. 15; Gardner 2008, pers. comm., Gibson *et al*. 2011, p. 307).

The continued deficiency of rigorous experimental data makes a decisive determination about the impacts of hunting mortality to sage-grouse on a rangewide basis difficult. In reality, hunting mortality is likely neither totally additive nor totally compensatory but falls somewhere in between (Robertson and Rosenberg 1988, as cited in Christiansen 2010, p. 6).

Timing

The hunting season start dates currently range from September 1 to October 4 with the majority of States open in mid- to late September. Montana opens earliest on September 1. All States with hunting seasons have changed limits and season dates to more evenly distribute hunting mortality across the entire population structure of sage-grouse, harvesting birds after females have left their broods (Bohne 2003, p. 5). Females and broods congregate in mesic (wet) areas late in the summer potentially making them more vulnerable to hunting (Connelly *et al*. 2000b, p. 230). However, despite increasingly later hunting seasons, females continue to comprise the majority of the hunting mortality in all years (Service 2014, unpublished data). Season open periods currently range from 2 to 30 days. Daily bag limits range from one to two birds. Possession limits range from one to four birds. Direct hunting mortality occurs during the hunting season. Indirect impacts (e.g., reduced reproductive potential from female mortality) can be long term.

Location and extent

In 2014, recreational hunting of greater sage-grouse will take place in 8 of the 11 States where sage-grouse occur. States with the largest sage-grouse populations also have the highest average percentage of hunting mortality (Table 2).

Table 2. Average percent of total rangewide harvest by State in recent decades (Service 2014, unpublished data).

Decade	WY	ID	MT	NV	UT	CO	OR	CA	ND	SD	WA	Total Mortality
1960s	35	23	27*	4	5	2*	3	**	**	**	1	1,514,811
1970s	27	30	19	8	8	5	1	**	**	0.01*	0.44	2,322,581
1980s	40	23	14	6	9	8	0.08	0.08*	0.02	closed	0.18	1,646,610
1990s	28	32	12	10	10	7	1	0.33	0.02	closed	closed	909,674
2000s	36	23	15	15	4	3	3	0.46	0.05	0.05	closed	313,731
2010-2013	44	13	14	21	3	2	3	0.09*	closed	0.04	closed	82,899

*Limited data available
** No data available

Compounded effects

All threats that result in sage-grouse mortality or decreased habitat quality increase the probability that recreational hunting mortality will be additive. Significant habitat loss, degradation, and fragmentation have occurred during the past several decades, and there is evidence that the sustainability of harvest levels depends to some degree upon the quality and quantity of habitat and the health of the population. Threats that reduce habitat quality or quality are numerous including agricultural conversion, urbanization, wildfire, invasive plants, pinyon-juniper encroachment, overgrazing, energy development and infrastructure, drought, climate change, predation, and disease. These same threats can and do result in direct mortality which again increases the probability that recreational hunting will be additive.

PROJECTED FUTURE IMPACTS

Foreseeable future-definition and rationale

The foreseeable future for the current level of hunting mortality is 2 years. Sage-grouse hunting is regulated by State wildlife agencies. Hunting seasons are reviewed annually at which time States can

adjust harvest management or implement emergency closures based on estimates for spring production and population size or other concerns (e.g., projected wildfire probability, West Nile virus) (e.g., Bohne 2003, pp.1¬10). Because States make adjustments annually, it is difficult to make accurate predictions about specific levels of hunting mortality into the future. However, given the downward trend in hunting mortality reported over the last several decades, we anticipate mortality rates will continue at levels similar to or potentially lower than current levels. For reasons discussed below, we assume that recreational hunting will continue at some level indefinitely.

Likelihood of future impacts

The likelihood of recreational hunting continuing for the foreseeable future is high. States are unlikely to end sage-grouse hunting for several reasons: 1) States have a long cultural tradition of recreational hunting of sage-grouse, 2) States are confident that current adaptive management strategies are adequate to avoid additive hunting mortality that can result in population level declines in sage-grouse, 3) States recognize the value of population information gained through hunter surveys and wing collection barrels and contend that the information would be more difficult and expensive to obtain by any other methods, 4) License fees provide revenue for State management and conservation of sage-grouse.

Despite strong State support, however, there is a degree of political uncertainty about the continuation of recreational hunting. Currently there is public pressure both to maintain sage-grouse hunting and to completely prohibit sage-grouse hunting (e.g. Christiansen 2010, p. 14; Frost 2010; Brean 2014; Darling 2014; Moore 2014; Smith 2014; South Dakota Game, Fish, and Parks 2014) .

Anticipated changes from present

We anticipate that recreational hunting will likely continue at present or even potentially reduced levels throughout the range of sage-grouse. States have become increasingly responsive to concerns about the status of sage-grouse and the potential impacts of recreational hunting. As knowledge of the potential impacts of recreational hunting has increased, States have adopted more conservative hunting seasons and an adaptive management approach at the population level.

THREAT AMELIORATION

Active Conservation

a. Known management/conservation actions and regulatory mechanisms

All States with sage-grouse hunting season have adopted an adaptive management approach to sage-grouse hunting. This approach incorporates the recommendations, or somewhat modified versions of them, made by Connelly *et al.* (2000a; p. 976) to manage hunting seasons (Budeau 2014, pers. comm.; Christiansen 2014, pers. comm.; Espinosa 2014, pers. comm.;Griffin 2014, pers. comm.; Moser 2014b, pers. comm.; Robinson 2014, pers. comm.;Wightman 2014, pers. comm.). Connelly *et al*. (2000a, p. 976) make the following recommendations for sage-grouse hunting: 1) Hunting seasons should be based on knowledge of population size and trends, 2) Liberal seasons should only occur for populations that are stable or increasing and occur over relatively large geographic areas, 3) If populations are declining (for 3 or more consecutive years) or trends are unknown, seasons and bag limits should be generally conservative or suspended, 4) Hunting mortality should be no more than 10 percent of the estimated fall population size, 5) Populations should not be hunted where less than 300 birds comprise the breeding population (i.e., less than 100 males are counted on leks).

Sage-grouse hunting seasons are set based on population information gathered through leks counts, hunter surveys, and wing collection barrels. Information on population size, trends, and

structure along with knowledge of current local habitat conditions is then used to make any adjustments to the hunting season necessary to reduce the potential for additive mortality. Season adjustments take the form of changes to the number of permits issued (in UT, OR, CA, and one site in NV), changes to the season length or bag limit, or total closure.

Actions and Effectiveness

a. Scale of implementation and effectiveness with respect to individual populations and rangewide

State management agencies have become increasingly responsive to concerns about the status of sage-grouse. All of the States where hunting sage-grouse is legal now manage harvests on a regional or population scale rather than applying State-wide limits. Bag limits and season lengths are relatively conservative compared to prior decades (Connelly 2005, p. 9; Gardner 2008, pers. comm.; Service 2014, unpublished data). Emergency closures, changes in permits numbers, and implementation of more conservative hunting seasons have been used for populations in decline or in areas experiencing other issues of potential concern (Budeau 2014, pers. comm.; Christiansen 2014, pers. comm.; Espinosa 2014, pers. comm.; Griffin 2014, pers. comm.; Moser 2014b, pers. comm.; Robinson 2014, pers. comm.; Wightman 2014, pers. comm.).

In 2014, areas were closed (or permits not offered) in limited portions of California, Colorado, Idaho, Montana, and Oregon because data suggested the populations under consideration are in decline or too small to support a hunting season. Hunting in North and South Dakota remained closed due to continued low lek count numbers. Oregon, California, and Nevada also had limited or closed hunting in targeted areas due to concerns over impacts from wildfire.

Earlier in this decade, States closed or limited hunting in targeted areas for several reasons, including inadequate population information, small or declining population size, ongoing research, and

negative impacts from wildfire and drought. Prior to 2010, areas in Idaho and Nevada were also closed due to impacts from West nile virus which does not appear to be currently as active as in the past (Gossett 2008, pers. comm; Dick 2009, pers. comm.; Moser 2014b, pers.comm.).

The current management strategy employed by the States is more conservative and risk-averse than management approaches taken in past decades. States now recognize the relatively high potential for additive hunting mortality in sage-grouse, a long-lived species with low reproduction, and have responded appropriately. Rangewide, hunting seasons are more conservative than in the past which has resulted in a significant reduction in sage-grouse hunting mortality (Service 2014, unpublished data). States have taken an adaptive management approach to sage grouse hunting management and have incorporated the risk adverse recommendations made by Connelly *et al.* (2000a; p. 976). Many States have reported estimated hunting mortality to be lower than the 10 percent mortality cap recommended by Connelly *et al*. (2000a; p. 976) (Christiansen 2010, p. 12; Budeau 2014, pers. comm.). Oregon has an explicit self-imposed policy to keep hunting mortality below 5 percent of the estimated fall through their permitted hunting season, but in reality hunting mortality is estimated to be closer to 2.5 percent (Budeau 2014, pers. comm.). Wyoming estimates that hunting mortality likely has been below 5 percent in recent years, but note this estimate is based on crude population estimates (Christiansen 2010, p.12). Nevada estimates since 2004 hunting mortality has been between 2 and 6 percent of the estimated fall population (Nevada Department of Wildlife 20XX, p. 1)

This more adaptive conservative approach undoubtedly has ameliorated the impacts of hunting on sage-grouse. There remains uncertainty, however, because the approach requires States have detailed and specific knowledge of sage-grouse population sizes and dynamics which is notably difficult to obtain for sage-grouse. States adjust hunting seasons largely on estimates for spring production and population size (e.g., Bohne 2003, pp.1¬10). However, hunting mortality affects fall populations of

sage-grouse, and currently there is no reliable method for obtaining estimates of fall population size (Connelly *et al*. 2004, p. 9-6; Reese and Connelly 2011, p. 110). Instead, lek counts conducted in the spring are used as a surrogate for fall population size. However, fall populations are already reduced from spring estimates as some natural mortality inevitably has occurred in the interim (Kokko 2001, p. 164). The discrepancy between spring and fall population size estimates plays a role in determining whether harvest will be within the recommended level of less than 5-10 percent of the fall population. For example, female mortality in Montana increased from the typical level of 1 to 5 percent to 16 percent during July/ August in a year (2003) with WNv mortality (Moynahan 2006, p.1535). During the summer of 2006 and 2007 in South Dakota, mortality from WNv was estimated to be between 21 and 63 percent of the population (Kaczor 2008, p.72). Despite the increased mortalities due to WNv, hunting regulations in both States remained similar to previous years.

Threat Amelioration Summary

States have adopted an adaptive management approach that is structured to allow for a timely reduction or cessation of hunting pressure on populations in decline. Changes in the management of sage-grouse hunting have resulted in a significant reduction in sage-grouse hunting mortality rangewide. Adaptive management, however, requires that States maintain detailed knowledge of population size and dynamics. Such information for sage-grouse is difficult to obtain with precision given current knowledge and techniques.

ASSESSMENT OF POTENTIAL THREAT

Greater sage-grouse are not used for any commercial purpose. In Canada, hunting of sage-grouse is prohibited. In the United States, sage-grouse hunting is regulated by State wildlife agencies and hunting regulations are re-evaluated annually. The best available information indicates that current

sage-grouse hunting management will continue, with most States making annual adjustments in harvest levels and seasons. Recreational hunting does not appear to have been a primary cause of rangewide declines of the greater sage-grouse in the recent past. In addition, current levels of recreational hunting likely do not pose a significant threat to the species. However, while recreational hunting does not appear to be a significant threat across the range, negative impacts on local populations have been demonstrated. Further, uncertainty regarding the impacts of hunting mortality exists because of a lack of experimental evidence and weakly supported and conflicting studies. Significant habitat loss and fragmentation have occurred during the past several decades, and there is evidence that sustainable harvest thresholds could vary with the quality of habitat and health of the population. However, recognition that habitat loss is a limiting factor is not conclusive evidence that hunting has played no role in population declines or that reducing or eliminating hunting mortality will not have an effect on population stability or recovery. We note, however, that in light of present and threatened habitat loss and other considerations (e.g., disease), continued close attention will be needed by States and Tribes to carefully manage hunting mortality, including continued adjustment to seasons and allowable harvest levels, and imposing emergency closures if needed.

CITATIONS

Allendorf, R.W. and J.J. Hard. 2009. Human-induced evolution caused by unnatural selection through harvest of wild animals. Proceedings of the National Academy of Sciences 106: 9987–9994.

Allendorf, F.W., P.R. England, G. Luikart, P.A. Ritchie, and N. Ryman. 2008. Genetic effects of harvest on wild animal populations. Trends in Ecology and Evolution 23:327–337.

Anthony, R.G. and M.J. Willis. 2009. Survival rates of female greater sage-grouse in autumn and winter in southeastern Oregon. Journal of Wildlife Management 73: 538–545.

Autenrieth, R.E. 1981. Sage grouse management in Idaho. Wildlife Bulletin Number 9. Idaho Department of Fish and Game. 239 pp.

Bohne, J. 2003. Analysis of sage-grouse hunting seasons in Wyoming and a justification for the 2003 sage-grouse hunting season. Memo to Staff Wyoming Game and Fish Department, Cheyenne, WY. 10 pp.

Braun, C.E. 1987. Current issues in sage grouse management. Proceedings of Western Association of Fish and Wildlife Agencies 67:134–144.

Bunnefeld, N., D.C. Reuman, D. Baines, and E. J. Milner-Gulland. 2011. Impact of unintentional selective harvesting on the population dynamics of red grouse. Journal of Animal Ecology 80: 1258–1268.

Caudill, D. 2011. Factors affecting greater sage-grouse (*Centrocercus urophasianus*) survival and movement in south-central Utah. M.S. Thesis. Utah State University, Logan, Utah. 144 pp.

Caudill, D., T.A. Messmer, B. Bibles, and M.R. Guttery. 2014. Greater sage-grouse juvenile survival in Utah. Journal of Wildlife Management 78: 808–817.

Christiansen, T. 2010. Hunting and Sage-Grouse: A technical review of harvest management on a species of concern in Wyoming. Revised September 2010. Wyoming Game and Fish Department. Cheyenne, WY. 19pp.

Connelly, J. 2005. Challenging dogma-changing paradigms: Sage grouse harvest management in the United States. Sage Grouse News 29:7–11

Connelly, J.W. and C.E. Braun. 1997. A review of long-term changes in sage grouse populations in western North America. Wildlife Biology 3:229–234.

Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000a. Guidelines to manage sage grouse populations and their habitats. Wildlife Society Bulletin 28:967–985.

Connelly, J.W., A.D. Apa, R.B. Smith, and K.P. Reese. 2000b. Effects of predation and hunting on adult sage grouse Centrocercus urophasianus in Idaho. Wildlife Biology 6:227–232.

Connelly, J.W., K.P. Reese, E.O. Garton, and M.L. Commons-Kemner. 2003. Response of greater sage-grouse Centrocercus urophasianus populations to different levels of exploitation in Idaho, USA. Wildlife Biology 9: 255–260.

Connelly, J.W., S.T. Knick, M.A. Schroeder, and S. J. Stiver. 2004. Conservation assessment of greater sage-grouse and sagebrush habitats. Unpublished Report, Western Association of Fish and Wildlife Agencies. Cheyenne, WY. 610 pp.

Connelly, J.W., C.A. Hagen, and M.A. Schroeder. 2011a. Characteristics and dynamics of greater sage-grouse populations. Studies in Avian Biology 38: pp. 53–67.

Crawford, J.A. 1982. History of sage grouse in Oregon. Pages 3–6 In Oregon Wildlife. Department of Fisheries & Wildlife, Oregon State University, Portland, OR.

Crawford, J.A. and R.S. Lutz. 1985. Sage grouse population trends in Oregon, 1941–1983. The Murrelet 66:69–74.

Dalke, P.D., D.B. Pyrah, D.C. Stanton, J.E. Crawford, and E. Schlatterer. 1963. Ecology, productivity, and management of sage grouse in Idaho. Journal of Wildlife Management 27:811–841.

Gibson, R. 1998. Effects of hunting on the population dynamics of two sage grouse populations in Mono County, California. Western Sage and Columbian Sharptailed Grouse Workshop. 21:15.

Gibson, R.M., V.C. Bleich, C.W. McCarthy, and T.L. Russi. 2011. Hunting lowers population size in greater sage-grouse. Studies in Avian Biology 39: 307–315.

Harris, R.G., W.A. Wall, and F.W. Allendorf. 2002. Genetic consequences of hunting: what do we know and what should we do? Wildlife Society Bulletin 30: 634¬–643.

Johnson, K.H. and C.E. Braun. 1999. Viability and conservation of an exploited sage grouse population. Conservation Biology 13:77–84.

Moynahan, B.J., M.S. Lindberg, and J.W. Thomas. 2006. Factors contributing to process variance in annual survival of female greater sage-grouse in Montana. Ecological Applications 16:1529 1538.

Nevada Department of Wildlife (NDOW). 2009. Nevada sage-grouse demographic data 1996-2008 (from annual wing bee analysis). Unpublished data. 1 p.

Nevada Department of Wildlife (NDOW). 20XX. In defense of sage-grouse hunting in Nevada. Fact Sheet. Nevada Department of Wildlife. 2pp.

Oregon Department of Fish and Wildlife (ODFW). 2009. Oregon Department of Fish and Wildlife greater sage-grouse harvest estimates and wing bee results. Unpublished data. 2 pp.

Patterson, R.L. 1952. The sage grouse in Wyoming. Wyoming Game and Fish Commission, Sage Books Inc., Denver, CO. 344 pp.

Reese, K.P. and J.W. Connelly. 2011. Harvest management for greater sage-grouse: A changing paradigm for game bird management. Studies in Avian Biology 38: pp. 101–111.

Schroeder, M.A., J.R. Young, and C.E. Braun. 1999. Sage grouse (Centrocercus urophasianus). 28 pages In Poole, A. and F. Gill, eds. The Birds of North America, No. 425. The Birds of North America, Inc., Philadelphia, Pennsylvania.

Sika, J.L. 2006. Breeding ecology, survival rates, and causes of mortality of hunted and nonhunted greater sage-grouse in central Montana. M.S. Thesis, Montana State University, Bozeman, Montana. 118 pp.

Sedinger, J.S., G.C. White, S. Espinosa, E.T. Partee, C.E. Braun. 2010. Assessing compensatory versus additive harvest mortality: an example using greater sage-grouse. Journal of Wildlife Management 74: 326–332.

Sedinger, B.S., J.S. Sedinger, S. Espinosa, M.T. Atamian, and E.J. Blomberg. 2010. Spatial-temporal variation in survival of harvested greater sage-grouse. Studies in Avian Biology 39: 317–328.

Stinson, D.W., D.W. Hays, and M.A. Schroeder. 2004. Washington State Recovery Plan for the Greater Sage-Grouse. Washington Department of Fish and Wildlife, Olympia, Washington. 109 pp.

Taylor, R.L., B.L.Walker, D.E. Naugle, and L.S. Mills. 2012. Managing multiple vital rates to maximize greater sage-grouse population growth. Journal of Wildlife Management 76: 336–347.

U.S. Fish and Wildlife Service. 2014. Summary of estimated sage-grouse harvest by decade for each state where sage-grouse are hunted. Harvest estimates by year were taken from unpublished state agency data. Unpublished data. 3 pp.

Watson, A. 2007. Cripple losses from grouse shooting, a brief review. Grouse News 34: 3–7.

Wik, P.A. 2002. Ecology of greater sage-grouse in south-central Owyhee County, Idaho. M.S. Thesis. University of Idaho, Moscow, Idaho. 141 pp.

Zunino, G.W. 1987. Harvest effect on sage grouse densities in northwest Nevada. M.S. Thesis, University of Nevada, Reno, NV. 50 pp.

Personal Communications

Email exchange with David Budeau, Upland Game Coordinator, Oregon Dept. of Fish and Wildlife, in Salem, OR (August 14, 2014).

Email exchange with Tom Christiansen, Wyoming Game and Fish Dept., in Green River, WY (August 14, 2014).

Email exchange with Shawn P. Espinosa, Upland Game Staff Biologist, Nevada Dept. of Wildlife, in Reno, NV (August 14, 2014).

Telephone interview. Scott Gardner, Sage-grouse Program Coordinator, California Department of Fish and Game, in Sacramento, CA. (August 28, 2008)

Email exchange with Kathy Griffin, State-wide Grouse Conservation Coordinator, Colorado Parks and Wildlife in Grand Junction, CO (August 13, 2014).

Email exchange with Ann Moser, Wildlife Staff Biologist, Idaho Dept. of Fish and Game, in Boise, ID (August 18, 2014).

Email exchange with Jason Robinson, Utah Division of Wildlife Resources, in Salt Lake City, UT (August 14, 2014).

Email exchange with Catherine Wightman, Montana Fish, Wildlife, and Parks, in Helena, MT (August 15, 2014).

Web pages (need to update to correct citation format).

Frost, G. 2010. End to greater sage-grouse hunting in CA sought. http://www.audublog.org/?p=3981

Brean, 2014. Hunt is on for threatened sage grouse.

http://www.reviewjournal.com/news/nevada/hunt-threatened-sage-grouse

Darling, D.J. 2014. Making their case for sage grouse hunting. http://www.bendbullelin.com/home/231321().153/making-lheir·case-for·sage-graJSe-hunting

Moore 2014. Hunters take a hit to preserve sage grouse http://www.wsj.com/articles/hunters-take-a-hit-to-preserve-sage-grouse-1411601233

Smith, B. 2014. Hunters wrestle over sage grouse season. http://magicvalley.com/lifestyles/recreation/hunters-wrestle-over-sage-grouse-season/article_71c3cc72-2503-11e4-b615-001a4bcf887a.html

South Dakota Game, Fish and Parks. 2014 http://gfp.sd.gov/hunting/small-game/sage-grouse.aspx

Executive Summary: Workshop for Experts on the Genetics of the Greater Sage-Grouse

Held at the USGS Fort Collins Science Center in Fort Collins, Colorado,
On October 22 and 23, 2014
Prepared by the Workshop Planning Team

The greater sage-grouse (*Centrocercus urophasianus*) is one of the most intensively studied upland game bird in North America. Ongoing research continues to improve our understanding of genetic diversity across the species' range including the degree to which observed differences represent distinct populations, isolated populations or other genetically distinct units. Techniques and metrics used to evaluate and describe genetic isolation, divergence, and diversity have also evolved and improved since previous genetic studies were published in 2005 and summarized in 2011 (Oyler-McCance *et al.* 2005; Oyler-McCance and Quinn 2011). Since then, new research on the genetics of sage-grouse has been completed while other studies are now in progress.

In 2010, the U.S. Fish and Wildlife Service (Service) determined the greater sage-grouse warranted protection under the Endangered Species Act (ESA or Act) but that listing was precluded by higher priorities. Habitat loss and fragmentation due to a variety of factors were cited as the primary threats to the species. Fragmenting habitats can produce small isolated populations, which may be more vulnerable to population declines, reduced genetic diversity, or potentially extinction. In fragmented ecosystems, dispersal of individuals from one population to another may be important to support genetic diversity, and in turn species abundance, redundancy across the landscape, and resilience to stochastic events.

The Service is currently assessing the status of the greater sage-grouse and is gathering the best available scientific and commercial data to inform a status determination by September 30, 2015. While a rider to the Fiscal Year 2015 Omnibus Appropriations Bill will prevent the Service from writing or publishing a proposed rule, it does not relieve the Service from completing a status review to determine whether the species still warrants protection under the Act.

As the Service gathers the best available information on sage-grouse genetics, the Service partnered with the U.S. Geological Survey (USGS) to organize a workshop to elicit information from scientific experts about recent developments in the field of sage-grouse genetics. The workshop explored the characteristics of gene flow across the range, including potential impediments, or barriers, to gene flow and any implications of genetic divergence across the range of the greater sage-grouse. The workshop also explored potential interactions between threats and genetic processes, and provided an opportunity for scientific experts to discuss ongoing and upcoming research on sage-grouse genetics. The workshop was structured to elicit information from the scientific experts that could later help the Service identify genetically unique sage-grouse groups, populations with low genetic diversity, or populations with unique genetic characteristics.

The following is a brief summary of the key issues identified during the workshop:

- The published genetic data is not sufficient to determine the amount of landscape-level gene flow between large, eastern and western portions of the overall range, but upcoming research will investigate further. Some degree of gene flow likely occurs from east-to-west across the range.
- Natural and human-caused features that impede the movement of individual birds, such as mountains, large rivers, deserts, forests, large reservoirs, agricultural fields, electrical power lines, highways, and energy development, may generally act as barriers to gene flow for the greater sage-grouse.
- Available genetic data indicates that the bi-state, Columbia Basin, and Jackson Hole populations are isolated from other populations and have low levels of gene flow with other sage-grouse populations. The Columbia Basin and Jackson Hole populations are also small, isolated, and less genetically diverse than the bi-state population. The bi-state population has likely been isolated for thousands of years, but it is currently unclear how long the Columbia Basin and Jackson Hole populations have been isolated.
- The Missouri River Valley likely acts as a barrier to gene flow between populations located to the north and south.
- The Strawberry Valley population in Utah has low genetic diversity likely due to predation, but not necessarily low gene flow with other sage-grouse populations.
- Small, isolated populations are more vulnerable to extirpation or extinction from demographic processes and stochastic events. Threats that fragment sagebrush habitats potentially increase the number and magnitude of barriers to gene flow and amplify the risks of small, isolated populations.
- Populations at the periphery of the range may have low genetic diversity as a result of low numbers or isolation, but may also be uniquely adapted to specific environmental conditions. These unique adaptations may increase the adaptive potential of sage-grouse so that the species has a higher probability of persistence during future changes to habitat or climate.
- Upcoming research, particularly a range-wide landscape connectivity study, will provide more information about the role that barriers play in moderating gene flow across the species' range.
- Available research has not evaluated the genetic makeup of all sage-grouse populations. Upcoming research may also identify additional isolated populations.

Moving forward – Path to decision recommendation

Introduction

The purpose of this document is to (1) outline our goals for and the structure of our May analysis and decision recommendation meetings with the Regional Directors, (2) identify who will be invited to those meetings and their respective roles, and (3) outline the material that will be provided in advance of the May meetings. Next week with the entire sage-grouse team, we plan to outline draft agendas for the two spring workshops and how we will utilize the strengths of the team to explore, evaluate, and discuss the available information. We will use the process framework as a guide for development of the agendas for the spring meeting.

Key Questions for Discussion

1. Approach: Identify any strong feelings from the RDs regarding approach and process.

2. Meeting dates: Consider an additional week between meeting one and two to allow additional time to develop alternative scenarios and answer key questions.

Next Steps

1. Outline and develop draft agendas for two analysis and decision recommendation workshops with entire sage-grouse team January 13-15.

2. Seek and obtain recommendations for facilitation expertise.

Decision-makers and Participants

For the groups of the individuals below, identify the expected role.

- RDs *(Joint decision-makers)*
- ARD+ *(Discussion leaders, Decision-makers?)*
- Project Leaders *(Discussion participants)*
- Species Leads *(Discussion participants)*
- Other members of the team (Writing, GIS, Modeling, etc.) *(Information presenters and discussion documenters)*

Meeting Goals

Meeting 1 – May 4-8, 2015

Bringing the building blocks together – Analysis and Deliberation

Goal - At the conclusion of Meeting 1, all information will have been presented, participants will have evaluated and discussed available information including modeling efforts and scenarios; remaining questions and issues will be documented and prioritized for work before the next meeting.

Prior to this meeting, all information in the species report will be available and briefings will have occurred. Modelling results will be presented and actively discussed by all meeting participants. We expect exploration of the information and vigorous debate around how threats and conservation actions alter the future predictions regarding the species' status.

Meeting 2 – May 18-22, 2015

Building our structure – Decision recommendation formulation

Goal - At the conclusion of the second meeting, the RDs will have a recommendation for the Director of either warranted or not warranted; appropriate policies are applied; and staff will be able to begin writing decision recommendation documents and appropriate Federal Register documents.

The second meeting will be focused upon legal and policy decisions identified in the process framework. This discussion will build from the first meeting by selecting the most reasonable and logical future scenarios.

Location

- Lakewood, CO
- Portland, OR
- Reno, NV
- NCTC
- Refuge Site

Structure

Preferred Option

Partial Mid-Week

Tuesday am – Thursday pm

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AM					Travel	
PM	Travel					

Alternative

Full Mid-Week

½ day field trip or other break (Tuesday am – Friday am, Wednesday field trip or site visit)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AM	Travel		BREAK			
PM					Travel	

Tools

Presentation of Material

Written
The Species Report will be provided in advance (May 1, 2015) for all parties to read.

Presentations
A PowerPoint presentation or oral briefing could be completed for all or a subset of chapters.

Visuals
Maps, infographics, charts, and other visuals will be employed to aid in understanding the species report chapters. These materials may be provided in advance of the analysis workshops or as part of the presentations.

Exploration of Information

Facilitated Discussion

- Questions would be used to guide discussion around each threat.
- And finally the status of the species across the rest of the range.

Information Elicitation

- All individuals would be asked to privately indicate their response to a question (could be the policy decision or a biological question).
- Answers would be shared with the group; discussion would ensue.
- Individuals would be asked then to indicate their response after the discussion.

Hands-On Activities
Participants may engage with the data through activities to explore the information in greater depth.

Example: Maps may be overlaid in real time by a GIS professional with input from the team in the room. In this way, discussions about the information could be informed by different views of the data.

Mock-Trial Concept

- Individuals could take the information presented and build a case for possible outcomes.
- These arguments could be created by teams of biologists or project leaders.
- The arguments would then be presented to the group showing each side.
- Following the mock trial, decision makers may follow with the expert elicitation or other means of deciding.

Suggested Participants

Group	Region	Title	Name
RDs: This group will review information being presented, ask questions, and participate in discussions.			

Group	Region	Title	Name
RD	1	Deputy Regional Director	Richard Hannan
RD	6	Regional Director	Noreen Walsh
RD	8	Regional Director	Ren Loehefener
ARD Plus: This group will present some information, provide answers to questions, and add questions or comments to discussion.			
ARD Plus	1	Assistant Regional Director	Terry Rabot
ARD Plus	1	R1 Candidate Conservation Coordinator	Jesse D'Elia
ARD Plus	6	Assistant Regional Director	Mike Thabault
ARD Plus	6	Deputy Assistant Regional Director	Nicole Alt
ARD Plus	6	National Sage-grouse Coordinator	Pat Deibert
ARD Plus	8	Assistant Regional Director	Mike Fris
ARD Plus	8	Regional Sage-Grouse Coordinator	Mary Grim
Species Leads: This group will present primary information and provide answers to questions.			
Species Leads	1	Sage-Grouse Biologist	Dawn Davis
Species Leads	6	Sage-Grouse Biologist	Lief Wiechman
Species Leads	8	Sage-Grouse Biologist	Steve Abele
Project Leaders: This group will review information being presented, ask questions, and participate in discussions.			
Project Leaders	1	Idaho State Project Leader	Mike Carrier
Project Leaders	1	Oregon State Project Leader	Paul Henson
Project Leaders	1	Washington State Project Leader	Vice Berg
Project Leaders	6	Colorado State Project Leader	Vice Linner
Project Leaders	6	Montana State Project Leader	Jodi Bush
Project Leaders	6	North and South Dakota State Project Leader	Scott Larsen
Project Leaders	6	Utah State Project Leader	Larry Crist
Project Leaders	6	Wyoming State Project Leader	Mark Sattelberg
Project Leaders	8	Nevada State Project Leader	Ted Koch
Facilitators: This group will manage the conversations, elicit responses from all attendees, identify gaps in information and assumptions made, and push for clarity of conversations.			
Facilitators			TBD
Facilitators			TBD
Other	6	Sage-Grouse Project Manager	Kate Norman
Other Staff: These staff will be present to provide technical support, GIS capability, information support from the writing team and records support.			
Other	6, 1, 8	Writing, Records, other teams reps	TBD

Goal

The purpose of this meeting is to touch base on the 2015 status review progress. ***Specifically for January 8, 2015 we will discuss the Mitigation Framework, Species Report initial chapters, and upcoming analysis workshops.***

Location

Las Vegas Field Office, FWS Conference Room
4701 N. Torrey Pines Dr.
Las Vegas NV 89130

877-937-1692 code: 476873 (GROUSE)
http://www.mymeetings.com/nc/join.php?sigKey=mymeetings&i=443154588&p=LEADER&t=c

Materials

Materials for this meeting can be found on the SharePoint Portal:
https://portal.doi.net/usfws/SG/docs/Forms/0108.aspx

Invitees

Invitees in parentheses will only participate in select sessions, not the entire meeting

Region 1	
RO	Richard Hannan, Terry Rabot *(Kathy Hollar,* Shauna Ginger*)*
Region 6	
RO	Noreen Walsh, Mike Thabault, Nicole Alt, Kate Norman
Region 8	
RO	Ren Loehefener, Mike Fris, Mary Grim

Agenda

Thursday, January 8, 2015			
Time	**Item**	**Lead**	**Participants**
8:00 am	**Welcome** • Meet Las Vegas Project Leaders Mike Senn, Ecological Services Office Christy Smith, Deseret NWR • Goals for today	Mike Thabault	RDs, ARD+, LVFO Project Leaders
8:30 am	**FYI and INPUT - Mitigation Framework** • Presentation	Shauna Ginger (in person) *Kathy Hollar (phone)*	RDs, ARD+, and mitigation presenters

Thursday, January 8, 2015			
Time	**Item**	**Lead**	**Participants**
10:30 am	**BREAK**		
10:45 am	**FYI – Species Report** • Approach to Species Report Chapter Review • Initial Species Report Chapters o Hunting o Recreation o Disease	Kate Norman	RDs, ARD+,
11:00 am	**INPUT – Expectations for Upcoming Spring Analysis Workshops** *This discussion will help direct in-person status review meeting Jan 13-15, 2015.*	Mike Thabault	RDs, ARD+
12:15 pm	**Next Steps and Closing**	Mike Thabault	RDs, ARD+
12:30 pm	**ADJOURN**		

Tasks

TASKS FROM PREVIOUS MEETING					
Category	**Resp'bl Party**	**Task**	**Due Date**	**Compltd Date**	**Notes**
Project Managmnt	Kate Norman	Flow Chart, Calendar showing all the different pieces and when and how they fit in	11/25/2014	11/14/2014	https://portal.doi.net/usfws/SG/docs/Forms/time.aspx
Internal Comm.	Mike Thabault, Terry Rabot, Mary Grim	Set up in-person Project Leader Meeting	1/15/2015	1/13/2015	In process; Working on all status review meeting for week of January 12, 2015
Expert Elicitation	Craig Hansen	Provide executive summary, notes, other materials to RDs for review.	11/25/2014	1/6/2015	
PECE	RDs/ARDs	Revisit the issue of PECE and timing for evaluating planned conservation.	12/16/2014		January meeting?
Budget	RDs	Budget Memo should be ready to sign	11/5/2014		Sent to HQ

Dates

UPCOMING DATES		
Date	**Event**	**Where**
1/13/2015 - 1/15/2015	In-Person Status Review Team Meeting	Denver, CO; https://portal.doi.net/usfws/SG/docs/Forms/JanMtg.aspx
2/10/2015	RD In-Person Meeting	?????

UPCOMING DATES		
Date	Event	Where
3/17/2015	RD In-Person Meeting	?????
4/13/2015 – 4/17/2015	Decision Workshop	*Likely to be changed to 1-day meeting
5/4/2015 – 5/8/20115	Decision Workshop	Denver?
5/18/2015 – 5/22/2015	Decision Workshop	Denver?