Final Performance Report

Date Generated: March 10, 2014

COPY ID-W-184-R-1 COLUMBIAN SHARP-TAILED GROUSE RESEARCH

SAP/PO Number# SAMPLE1015
Mod Number- 0-BASE

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Grant Performance Snapshot

Grant Snapshot #SAMPLE1015 - COPY ID-W-184-R-1 COLUMBIAN SHARP-TAILED GROUSE RESEARCH

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Grant SAP/PO Number	SAMPLE1015
Grant Mod Number	0-BASE
Start Date	October 1, 2010
End Date	September 30, 2013

Grant Funds Allocated to Actions

Action	Action Category	Est. WSFR Fed Cost	Est. WSFR Non-Fed Match	Est. Total Amount
2010/2011 Annual Performance Report	Data Collection and Analysis	$38,133	$12,711	$50,844
2011/2012 Annual Performance Report	Data Collection and Analysis	$38,133	$12,711	$50,844
2012/2013 Annual Performance Report	Data Collection and Analysis	$38,133	$12,711	$50,844
	Totals	$114,399	$38,133	$152,532

Project Statement Performance #60008478 - Columbian Sharp-tailed Grouse Research

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Project Name	BMP Research: ID-Columbian Sharp-tailed Grouse Research [View Project Details]

SMART Objectives - Purpose/Targets

Purpose/Target ID - Improve Monitoring & Assess Land Use

Purpose/Target Description	Improve population monitoring and assessment techniques for Columbian sharp-tailed grouse (CSTG) and assess the impacts of land use changes (e.g., loss of Conservation Reserve Program lands, development of wind power) on sharp-tailed grouse vital rates and distribution over a three year period.
Viability Status	Sustain
Viability Status Justification	This project purpose is to evaluate population assessment techniques and land use changes. Directly, this project is not expected to increase or decrease the population. However, indirectly, improved assessment and monitoring techniques may lead to improved conservation efforts and subsequently increased popluations.

Directly Benefited Species

Scientific Name	Common Name	Status
Tympanuchus phasianellus	Sharp-tailed Grouse	

Objectives

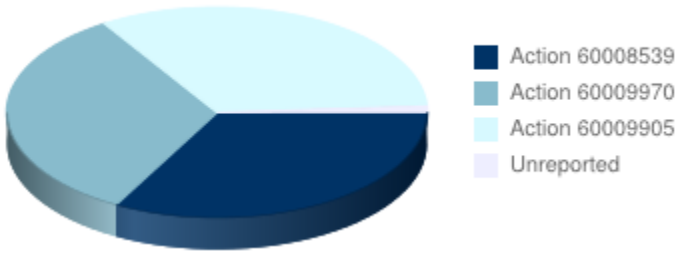
Objective ID - Survey and Data Collection

Objective Name	Survey and Data Collection
Objective Statement	To improve monitoring and assessment techniques for Columbian sharp-tailed grouse (CSTG) surveys for CSTG will be conducted with a refined technique to evaluate the effectiveness of the new methods. Surveys will be conducted annually for three years.

Custom Quantitative Indicators

Desired Future Value	Base Value	Output	Deadline
3	0	Years of Surveys and Data Collection	September 30, 2013

% of Desired Output Reported by Action

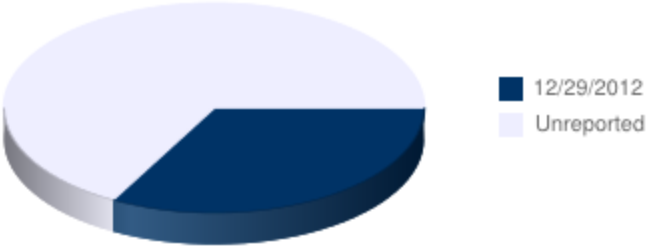


Addressing Actions

Action # 60009905 - 2011/2012 Annual Performance Report

[View Action Details]

% of Desired Output by Date

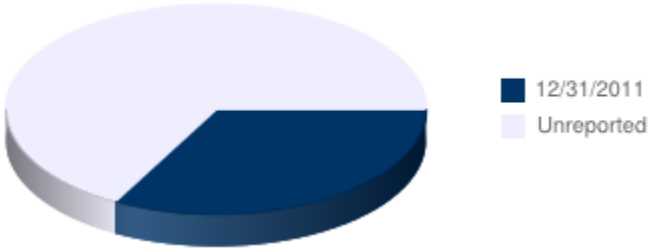


Date Reported	Reported Value	Output	% of Desired Output
December 29, 2012	1	Years of Surveys and Data Collection	33%
Results	One year of data was collected. RESULTS FOR 2012 Trapping, Survival, and Movement of CSTG We used 2 trapping techniques for CSTG during spring 2012. We used night-lighting techniques for 13 nights from 19 March until 31 March as well as on 18 and 19 of April 2012. Generally, we started searching at 10:30 p.m. as it usually takes an hour or more to find roosting birds. The earliest we captured a bird was 11:40 pm and the latest was 5:50 am using night-lighting techniques. We captured 37 males and 34 hens using this capture technique (about 2.6 birds a night). We also deployed walk-in traps at 7 leks for a total of 16 days from 2 April until 18 April with an average of 2.6 people per morning at a lek. We captured 26 males and 18 hens using the walk-in trap method; a little over one hen per morning. With the 2 techniques combined we captured 115 CSTG at or near 19 leks in the Rockland and Curlew Valleys. Of the captured CSTG, we fitted 37 adult and 15 yearling females with radio-transmitters. We also fitted a yearling male and 2 adult males with radio-transmitters (n = 55). Survival rates were 72% from 1 October 2011 to January 2012. This estimate includes both hunter-caused and natural mortality. Overall survival from 1 April 2012 to 15 August 2012 was 64% (n = 47); 60% for birds occupying CRP and 71% survival of birds occupying shrub-steppe. Mortality occurred throughout the spring and summer season rather than pulses of mortality during spring weather events and the nesting period. Nest Success, Brood Success, and Nest Videography Overall nest success was 39% (n = 51) during 2012. Nest success was 45% (n = 22) for CSTG nesting in shrub-steppe, 32% (n = 25) in CRP, and 50% (n = 4) for CSTG nesting in other habitat types which included grazed grassland or weed patches not associated with CRP fields. We also observed that 30% of hens re-nested that failed on their first nest attempt (n = 27). Overall brood success was 50% during 2012 (n = 18). Of the 51 nests monitored via radio-telemetry in 2012, we deployed cameras at 23 nests which recorded continuous videography. Videography of nests revealed 9 predation events that all resulted in nest failure: 4 badgers, 2 coyotes, 2 ravens, and 1 striped skunk. We did not observe		
Significant Deviations	None		
Totals	1	Years of Surveys and Data Collection	33%

Action # 60008539 - 2010/2011 Annual Performance Report

[View Action Details]

% of Desired Output by Date



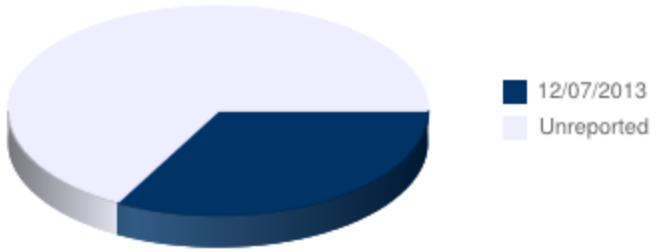
Date Reported	Reported Value	Output	% of Desired Output
December 31, 2011	1	Years of Surveys and Data Collection	33%
Results	One year of data was collected. RESULTS FOR 2011 Trapping, Survival, and Movement of CSTG We trapped and banded 96 CSTG on 18 different leks in the Rockland and Curlew Valleys during April and May of 2011. We fitted 22 females and 5 males with radio transmitters in the Rockland Valley; we fitted 12 females and 7 males with radio transmitters in the Curlew Valley. Ten of 22 (45%) females were alive in the Rockland Valley and 7 of 12 (58%) females were alive in the Curlew Valley as of 15 August 2011. Two of 5 (40%) males were alive in the Rockland Valley and 6 of 7 (86%) males were alive in the Curlew Valley as of 15 August 2011. The majority of mortalities were attributed to raptors. On average females were located twice a week and males were located once a week. Two females from both the Rockland and Curlew Valleys travelled greater than 3-km from the lek of capture (range: 4-13 km), however, the majority of male and female CSTG remained within 3 km of the lek of capture during spring and summer. Nest Success and Videography In the Rockland Valley 3 of 13 (23%) nest attempts were successful and 2 of 9 (22%) nest attempts were successful in the Curlew Valley. We were unable to detect a nest attempt by 5 females due to logistical constraints, hence, nest success is biased high since each of the aforementioned females most likely attempted to nest at least once. We estimate that at least 12 of 21 (57%) females monitored during the nesting season re-nested. Our confidence in this estimate was also obscured by our inability to monitor each female closely (locate twice a week) early in the nesting season. We were unable to conduct nest searches with dogs. Of the 22 known nest attempts 15 were monitored continuously using videography. Badgers caused 6 nests to fail. A coyote, a long-tailed weasel, and beef cow were each responsible for causing a nest attempt to fail. Furthermore, 1 of the successful nests had 5 of 11 eggs eaten by a coyote but the female continued to incubate the clutch. A magpie removed 8 eggs from a nest bowl after the female abandoned the nest when a cow ate 3 eggs in the clutch. Mammalian species that depredated nests were similar between the Rockland and Curlew Valleys. Measuring Olfactory Characteristics of Nest Sites We measured olfactory characteristics with anemometers simultaneously at 18 different nests and random locations as well as 8 brood and random locations. However, we were unable to conduct measurements within 48 hours of nest depredation/hatch or brood location.		

	Vegetation and Invertebrate Surveys We conducted 20 nest/random vegetation surveys and 8 brood/random vegetation surveys between the Rockland and Curlew Valleys. We conducted 8 sweep net invertebrate surveys at brood locations. Few females had successful nests and many of the broods monitored survived less than 10 days.		
Significant Deviations	None		
Totals	1	Years of Surveys and Data Collection	33%

Action # 60009970 - 2012/2013 Annual Performance Report

[View Action Details]

% of Desired Output by Date



Date Reported	Reported Value	Output	% of Desired Output
December 7, 2013	1	Years of Surveys and Data Collection	33%
	One year of data was collected. RESULTS FOR 2013 Trapping, Survival, and Movement of CSTG We primarily used night-lighting techniques to capture CSTG during spring 2013 but also captured 27 CSTG (22%) using walk-in traps. We fitted 78 CSTG with radio-transmitters and bands during spring 2013 (61 females, 17 males) in the Rockland and Curlew Valleys. We trapped an additional 45 males that were only banded during the same time period. Four radio-transmitters on females and two radio-transmitters on males failed. Survival of CSTG with radio-transmitters from the date of capture during March or April 2013 until 1 October 2013 was 60% for males (n = 15) and 79% for females (n = 57). Survival of females occupying CRP lands during the same time period was 75% (n = 36) and 90% for females occupying shrub steppe rangelands (n = 21). Male survival as a function of habitat occupied is not reported since males were not located as frequently as females Nest Success, Brood Success, and Nest Videography Nest success was 29% (n = 42) for CSTG nesting in CRP lands and 48% (n = 29) in shrub-steppe rangelands. The cause of nest failure was determined at 15 of 45 failed nest attempts by reviewing videography from IR cameras deployed at nests. Fat of the other 30 failed nest attempts was determined by observing the nest bowl after failure. Badgers were the most common reason nests failed, causing 36% of failed nests (n = 16) followed by coyotes (27%; n = 12), corvids (20%; n = 7), heat stress (10%; n = 4), mowing of CRP (5%; n = 2), unknown factors (7%; n = 3), and infertility (2%; n = 1). All of the failed nest attempts from heat stress occurred during a week in late June where 4-5 consecutive days of greater		

Results	than 100oF occurred. Overall brood success was 36% during 2013 (n = 22). Measuring Olfactory Characteristics of Nest Sites We measured olfactory characteristics with anemometers simultaneously at 60 nests and random locations as well as 20 brood and random locations. We also had 6 pairs of nesting hens that nested in close proximity (i.e. = 250 m) and we were able to measure olfactory characteristics simultaneously after hatch at these paired nests as well. Vegetation and Invertebrate Surveys We conducted 60 nest and random vegetation surveys and 20 brood and random vegetation surveys between the Rockland and Curlew Valleys. We conducted 30 sweep net invertebrate surveys at brood locations. Population Reconstruction and Lek Counts During October 2013, 3 of 49 (6%) CSTG with radio-transmitters were harvested and reported by hunters in the study area. In addition, two banded birds without radio-transmitters were reported as harvested by hunters. Lastly, a female was harvested that was trapped in the first year of the project (2011), re-trapped in the second year of the project (2012), but the radio-transmitter expired before the trapping season in 2013. Lastly, we conducted lek counts for inclusion as an independent auxiliary element at 23 leks in the Rockland Valley and 25 leks in the Curlew Valley. Logistical constraints precluded our ability to conduct invertebrate surveys on a large enough scale to be included as auxiliary elements for population reconstruction. Counting 96 leks once using AIR and ground-based methods Counting 96 leks one time using AIR required 19.5 hours of flight time over the course of four mornings (Table 1). The total cost of AIR included a four hour ferry of the airplane to and from the study area. This cost was retained in the estimate as it will likely be incurred by most agencies replicating this type of work since contractors for AIR are not widely available. Counting 96 leks one time using ground-based methods required more IDFG manpower and vehicles but approximately half the cost (Table 1). Ground-based methods required 7 lek counters, 27 worker mornings, 8 pickups, and 3 ATVs and lek counters took 162 total hours and drove 2377.4 miles to count 96 leks one time. DISCUSSION		
Significant Deviations	None		
Totals	1	Years of Surveys and Data Collection	33%

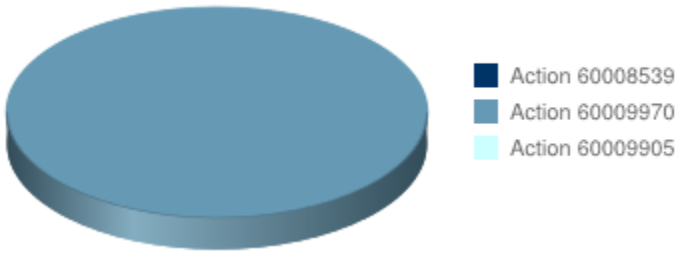
Objective ID - Anaysis and Thesis

Objective Name	Anaysis and Thesis
Objective Statement	Analize the data collected and develop and submit an approved thesis addressing the overall purpose of improving population monitoring and assessment techniques for Columbian sharp-tailed grouse (CSTG) and assess the impacts of land use changes (e.g., loss of Conservation Reserve Program lands, development of wind power) on sharp-tailed grouse vital rates and distribution.

Standard Indicators

Desired Future Value	Base Value	Output	Deadline
1	0	Projects	September 30, 2013

% of Desired Output Reported by Action

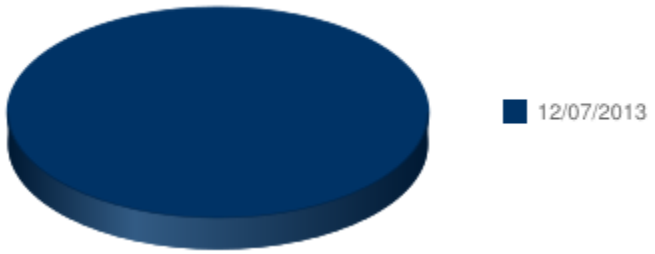


Addressing Actions

Action # 60009970 - 2012/2013 Annual Performance Report

[View Action Details]

% of Desired Output by Date



Date Reported	Reported Value	Output	% of Desired Output
December 7, 2013	1	Projects	100%
Totals	1	Projects	100%

Action # 60008539 - 2010/2011 Annual Performance Report

[View Action Details]

% of Desired Output by Date

Date Reported	Reported Value	Output	% of Desired Output
December 31, 2011	0	Projects	0%
Totals	0	Projects	0%

Action # 60009905 - 2011/2012 Annual Performance Report

[View Action Details]

% of Desired Output by Date

Date Reported	Reported Value	Output	% of Desired Output
December 29, 2012	0	Projects	0%
Totals	0	Projects	0%

Appendix A: Grant Details

Grant Details #SAMPLE1015 - COPY ID-W-184-R-1 COLUMBIAN SHARP-TAILED GROUSE RESEARCH

[top]

Grant SAP/PO Number	SAMPLE1015
Grant Mod Number	0-BASE
Recipient State	Idaho
Start Date	October 1, 2010
End Date	September 30, 2013

Grant Programs

Program	Est. WSFR Fed Cost	Est. WSFR Non-Fed Match
Wildlife Restoration Grants	$114,401	$38,134
Totals	$114,401	$38,134

Grantors	U.S. Fish and Wildlife Service
Agency Grantees	Idaho Department of Fish and Game

Appendix B: Project Statement Details

Project Snapshot #60008473 - BMP Research: ID-Columbian Sharp-tailed Grouse Research

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Primary Agency	Idaho Department of Fish and Game
Start Date	October 1, 2010
End Date	September 30, 2013
Project Categories	Conservation/Management

Project Statement Details #60008478 - Columbian Sharp-tailed Grouse Research

[top]

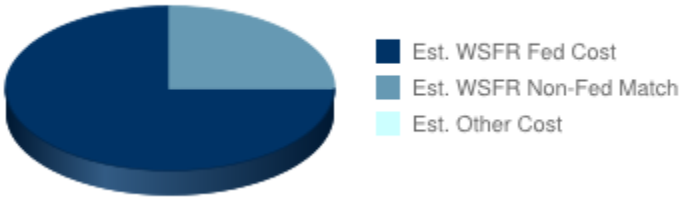
Properties

Is Revision?	No
Grant Programs	Wildlife Restoration Grants

Project Statement Cost Breakdown

Estimated WSFR Federal Cost:	$114,401
Estimated WSFR Non-Federal Match:	$38,134
Estimated Other Cost:	$0
Total Estimated Cost:	$152,535

Cost Breakdown Graph



Need Statement

The Idaho Department of Fish and Game (IDFG) needs a reliable technique for monitoring the status and trend of Columbian sharp-tailed grouse populations. Additionally, the Department needs a bette understanding of the vital rates of Columbian sharp-tailed grouse in various habitat types including Conservation Reserve Program lands, native shrub-steppe, and altered shrub- steppe communities. This information is necessary for conservation and management decisions, including hunting seasons habitat improvement efforts, and technical assistance to public and private landowners.

The IDFG and the Idaho Fish and Game Commission are mandated by State Law to preserve, protect, perpetuate, and manage all wildlife in Idaho. The state's big game mammals, upland game birds and other species are of great social and economic value, and the state holds a public trust responsibility to manage these species in a manner that will preserve, protect, and perpetuate them as natural resources owned jointly by the citizens of Idaho into perpetuity. Fulfilling Idaho's public trust responsibility to Idaho citizens requires knowledge about each species and its relationship to its environment. To obtain this critical information, Idaho maintains a staff of highly trained professiona wildlife research biologists, assisted on occasion by graduate students, to obtain needed information This project will help IDFG and the Fish and Game Commission acquire the necessary biological information needed to carry out their mission.

Federal grant funds under the Wildlife Restoration Act (i.e. Pittman-Roberston Act) are availalble to states for funding wildlife restoration projects, which includes, "...research into the problems of wildlife management as may be necessary to efficient administration affecting wildlife resources..." Therefore, this project's need is consistent with the funding source of the Wildlife Restoration Act.

Approach

Study sites will be established in southeastern Idaho within Idaho Department of Fish and Game's Magic Valley, Southeast and Upper Snake regions. Specific counties include Bannock, Bingham, Bonneville, Caribou, Jefferson, Madison, Power, and Oneida (Figure 1).

Borrowing from both the sage-grouse and sharp-tailed grouse literature and a survey of methods used to monitor sharp-tail grouse by other agencies the Columbian sharp-tailed grouse (CSTG) lek

count protocol (ground-based visual observations accessed by vehicle driven on established roads) proposed by Ulliman et al. 1998 will be refined. The refined protocol will be applied throughout Idaho and exported to other agencies for consideration and consistency across CSTG range. Along with good standardization of data collection methods, most management agencies have not taken advantage of statistical sampling theory to improve the accuracy, precision, and defensibility of population survey data. Thus, a statistically defensible monitoring strategy using stratified random, cluster, or other common probability sampling design will be developed to allocate survey effort to maximize efficiency by balancing cost, accuracy, and precision to meet management determined constraints (Garton et al. 2007).

Sharp-tailed grouse will be trapped on leks with walk-in traps. Traps will be set approximately 1 hour before sunrise and remain open, under constant surveillance, until mid morning. All captured birds will be banded and 30-40 grouse per year per area (10-15 males, 20-30 females) will be equipped with radio-transmitters. Radio-marked grouse will be monitored 2-4 times per week from the ground during the breeding season and locations will be recorded with the aid of a GPS unit. Nest and use sites of radio-marked sharp-tailed grouse will be characterized using standard procedures for assessing grass and shrub vegetation (e.g., Connelly et al. 2003). Herbaceous cover will be assessed using Daubenmire frames and Robel poles while shrub overstory will be measured using line intercept. Radio-marked grouse will be monitored 2-3 times per week during the summer and fall and locations will be recorded with the aid of a GPS unit. Periodic aerial relocations may be obtained by using fixed-wing aircraft flying at an altitude of 500+ feet AGL.

Winter locations will be obtained 3-5 times per month for each radio-marked bird to allow estimates of both seasonal and annual home ranges. Distribution, home range, and vital rates will be analyzed and compared for populations of CSTG in areas affected by habitat change and populations occupying relatively intact habitats.

Maximum-likelihood estimation of demographic parameters, including recruitment, annual survival, harvest rate, and abundance, can be calculated based on a joint-likelihood model of age- at-harvest and incorporation of independent elements including lek survey data, catch-effort data, and radio-telemetry data among others (Skalski et al 2005, Skalski et al. 2007, Broms et al. 2010). Wings collected from birds harvested during the regulated hunting season will be used to provide the age-at-harvest data. Some refinements in collection methods may be necessary to ensure representative samples. Small game populations present an additional challenge because of the limited number of age classes that can be distinguished from the hunter bag. Joint- likelihood population reconstruction models will be developed following the methods of the above authors and especially Broms et al. (2010) who adapted this methodology for sage-grouse and a simple two-age class population structure.

Expected Results

The results of this work will greatly enhance wildlife managers' ability to monitor Columbian sharp-tailed grouse populations and assess trends throughout their range. It will also guide management efforts including the establishment of sustainable harvest opportunity and habitat conservation actions. A research paper, published in a professional journal, addressing the objectives of the project is expected upon completion of the project. The results of this work will greatly enhance wildlife managers' ability to monitor Columbian sharp-tailed grouse populations and assess trends throughout their range. It will also guide management efforts including the establishment of

sustainable harvest opportunity and habitat conservation actions. A research paper, published in a professional journal, addressing the objectives of the project is expected upon completion of the project.

General

LITERATURE CITED

Broms, K., J.R. Skalski, J.J. Milspaugh, C.A. Hagen, and J.H. Schultz. 2010. Using statistical population reconstruction to estimate demographic trends in small game populations. Journal of Wildlife Management 74:310-317.

Connelly, J.W., K.P. Reese, and M.A. Schroeder 2003. Monitoring of greater sage-grouse habitats and populations. University of Idaho college of natural resources experiment station bulletin 80. Moscow, ID.

Garton, E.O., D.D. Musil, K.P. Reese, J.W. Connelly, and C.L. Anderson. 2007. Sentinel lek- routes: an integrated sampling approach to estimate greater sage-grouse population characteristics. In Reese, K.P., and R.T. Bowyer. 2007. Monitoring populations of sage- grouse. University of Idaho college of natural resources experiment station bulletin 88. Moscow, ID.

Skalski, J.R., K.E. Ryding, and J.J. Millspaugh. 2005. Wildlife Demography: Analysis of sex, age, and count data. Elsevier Academic PressBurlington, MA.

Skalski, J.R., R.L. Townsend, and B. Gilbert. 2007. Calibrating statistical population reconstruction models using catch-effort and index data. Journal of Wildlife Management 71:1309-1316.

Ulliman, M.J., A. Sands, and T. Hemker. 1998. Idaho Columbian sharp-tailed grouse conservation plan - draft. Unpubl. Rpt. Idaho Department of Fish and Game, Boise. 31pp.

MINIMIZATION MEASURES FOR FEDERALLY-LISTED SPECIES

Federally listed and candidate species whose geographic range are within the project area include gray wolf (Canis lupus, LT- experimental, non-essential), grizzly bear (Ursus arctos, LT), lynx (Lynx canadensis, LT), sage grouse (Centrocercus urophasianus, C), yellow-billed cuckoo (Coccyzus americanus, C), Utah valvata snail (Valvata utahensis, LE), and Ute Ladies'-tresses (Spiranthes diluvialis, LT). Project work will occur within the habitats occupied by Columbian sharp-tailed grouse including sagebrush-steppe and Conservation Reserve Program lands. Because sharp-tailed grouse do not inhabit aquatic systems, no impacts to Utah valvata snail are expected to occur. Similarly; grizzly bear, lynx, and yellow-billed cuckoo are generally associated with wooded habitats not used by sharp-tailed grouse and no impacts are expected. However, if grizzly bear, lynx, or yellow-billed cuckoo are detected during project activities, staff will document the observation and cease any activities that could disturb the animal. Sage grouse can be found concurrent with sharp-tailed grouse, but because trapping (passive walk-in) will be limited to sharp-tailed grouse leks there will be very limited risk of incidental take. Additionally, high-altitude aerial telemetry monitoring is not expected to adversely affect sage grouse. Because soil disturbance is not a planned activity for the project, no impacts to listed plant species are likely to occur.

Useful Life

Not applicable, no capital improvements are proposed under this project.

Program Income

Not applicable, no program incomes is expected to be generated in this project.

Multipurpose Projects

Not applicable, this project will not have multiple purposes under different funding sources.

Relationship with Other Grants

Not applicable, no other grant funding is proposed to support this project.

Timeline

-April - May 2011 and 2012: Conduct lek searches and counts
-March - May 2011 and 2012: Behavioral observations of sharp-tailed grouse attending leks
-March - May 2011 and 2012: Capture and radio-collar sharp-tailed grouse
-May - June 2011 and 2012: Monitor nest site selection, sest site habitat, nest success of radio-collared sharp-tailed grousehabitat use, survival, distribution, movements, vital rates of radio-collared sharp-tailed grouse
-Weekly throughout the project: Monitor habitat use, survival, distribution, movements, vital rates of radio-collared sharp-tailed grouse
-October - November 2011 and 2012: Monitor band returns and sport harvest mortality
-August 2012 - May 2013: Data analysis, thesis writing

SMART Objectives - Purpose/Targets

Purpose/Target ID - Improve Monitoring & Assess Land Use

Purpose/Target Description	Improve population monitoring and assessment techniques for Columbian sharp-tailed grouse (CSTG) and assess the impacts of land use changes (e.g., loss of Conservation Reserve Program lands, development of wind power) on sharp-tailed grouse vital rates and distribution over a three year period.
Viability Status	Sustain
Viability Status Justification	This project purpose is to evaluate population assessment techniques and land use changes. Directly, this project is not expected to increase or decrease the population. However, indirectly, improved assessment and monitoring techniques may lead to improved conservation efforts and subsequently increased popluations.

Directly Benefited Species

Scientific Name	Common Name	Status
Tympanuchus phasianellus	Sharp-tailed Grouse	

Objectives

Objective ID - Survey and Data Collection

Objective Name	Survey and Data Collection

Objective Statement	To improve monitoring and assessment techniques for Columbian sharp-tailed grouse (CSTG) surveys for CSTG will be conducted with a refined technique to evaluate the effectiveness of the new methods. Surveys will be conducted annually for three years.

Custom Quantitative Indicators

Desired Future Value	Base Value	Output	Deadline
3	0	Years of Surveys and Data Collection	September 30, 2013

Objective ID - Anaysis and Thesis

Objective Name	Anaysis and Thesis
Objective Statement	Analize the data collected and develop and submit an approved thesis addressing the overall purpose of improving population monitoring and assessment techniques for Columbian sharp-tailed grouse (CSTG) and assess the impacts of land use changes (e.g., loss of Conservation Reserve Program lands, development of wind power) on sharp-tailed grouse vital rates and distribution.

Standard Indicators

Desired Future Value	Base Value	Output	Deadline
1	0	Projects	September 30, 2013

Appendix C: Project Details

Project Details #60008473 - BMP Research: ID-Columbian Sharp-tailed Grouse Research

[top]

Properties

Status	Active
Primary Agency	Idaho Department of Fish and Game
Primary Contact	Brad Compton

Start Date	October 1, 2010
End Date	September 30, 2013
Is Project Sensitive?	No
Project Categories	Conservation/Management
Action Categories	Data Collection and Analysis

Project Description

The Columbian sharp-tailed grouse (Tympanuchus phasianellus columbianus; hereafter CSTG) was once widespread and perhaps the most abundant gallinaceous bird of the Intermountain West (Bendire 1892). Beginning in the early 1900's distribution and abundance of CSTG declined substantially. In 1980, CSTG existed as isolated populations inhabiting 10–50% of historic range (Miller and Graul 1980) and were extirpated from Oregon, California, and Nevada. Schroeder et al. (2000) estimated a 92% decline ir CSTG populations in the state of Washington since 1954. Although populations of CSTG remain imperiled in most states (Natural Heritage Program, accessed August 2010), in the last 25 years, CSTG have expanded their range and increased in abundance in parts of Idaho, Utah, and British Columbia (Leupin 2003, Rodgers and Hoffman 2005). Populations in Idaho may represent 75% of the rangewide CSTG breeding population (Ulliman et al. 1998) and have been a source population for various translocation programs.

The Idaho Department of Fish and Game (Department) needs a reliable technique for monitoring status and trend of Columbian sharp-tailed grouse populations. Additionally, the Department needs a better understanding of the vital rates of Columbian sharp-tailed grouse in various habitat types including Conservation Reserve Program lands, native shrub-steppe, and altered shrub- steppe communities. This information is necessary for conservation and management decisions, including hunting seasons, habita improvement efforts, and technical assistance to public and private landowners.

The Idaho Department of Fish and Game and the Idaho Fish and Game Commission are mandated by State Law to preserve, protect, perpetuate, and manage all wildlife in Idaho. The state's big game mammals, upland game birds and other species are of great social and economic value, and the state holds a public trust responsibility to manage these species in a manner that will preserve, protect, and perpetuate them as natural resources owned jointly by the citizens of Idaho into perpetuity.

Fulfilling Idaho's public trust responsibility to Idaho citizens requires knowledge about each species and its relationship to its environment. To obtain this critical information, Idaho maintains a staff of highly trained professional wildlife research biologists, assisted on occasion by graduate students, to obtain needed information. This project will help the Department and the Fish and Game Commission acquire the necessary biological information needed to carry out their mission.

The objectives of this 3-year research project are to:

1) Improve population monitoring and assessment techniques for Columbian sharp-tailed grouse (CSTG) and
2) Assess the impacts of land use changes (e.g., loss of Conservation Reserve Program lands, development of wind power) on sharp-tailed grouse vital rates and distribution over a three year period

The benefits and results of this study will greatly enhance wildlife managers' ability to monitor

Columbian sharp-tailed grouse populations and assess trends throughout their range. It will also guide management efforts including the establishment of sustainable harvest opportunity and habitat conservation actions.

Location Details

Is Statewide Project?	No
Acres	7,162,669.06

States	Congressional Districts	Counties
Idaho	Congressional District 2,	Bannock County, Bear Lake County, Bingham County, Blaine County, Bonneville County, Butte County, Caribou County, Cassia County, Clark County, Franklin County, Fremont County, Jefferson County, Madison County, Oneida County, Power County, Teton County,
Wyoming	Congressional District (at Large),	Lincoln County, Teton County,
Utah	Congressional District 1,	Box Elder County, Cache County,

Action Summaries

Action # 60009970 - 2012/2013 Annual Performance Report

[View Action Details]

Start Date	October 1, 2012
End Date	September 30, 2013
Action Category	Data Collection and Analysis
Action Strategy	Research, survey or monitoring - fish and wildlife populations

Action # 60008539 - 2010/2011 Annual Performance Report

[View Action Details]

Start Date	September 30, 2011
End Date	September 29, 2012
Action Category	Data Collection and Analysis
Action Strategy	Research, survey or monitoring - fish and wildlife populations

Action # 60009905 - 2011/2012 Annual Performance Report

[View Action Details]

Start Date	October 1, 2011
End Date	September 30, 2012
Action Category	Data Collection and Analysis
Action Strategy	Research, survey or monitoring - fish and wildlife populations

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Appendix D: Action Details

Action Details #60009970 - 2012/2013 Annual Performance Report

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Properties

Project Name	BMP Research: ID-Columbian Sharp-tailed Grouse Research [View Project Details]
Status	Completed
Primary Contact	Brad Compton
Start Date	October 1, 2012
End Date	September 30, 2013
Action Category	Data Collection and Analysis

Action Strategy

Strategy	Measured Output	Output Unit
Research, survey or monitoring - fish and wildlife populations	1	Projects

Activities	Population assessment, Age, size and sex structure

Current Habitat

Habitat Level 1	DESERT SCRUB
Habitat Level 2	Cool Desert Scrub

Directly Benefited Species

Scientific Name	Common Name	Status
Tympanuchus phasianellus	Sharp-tailed Grouse	

Document Attachments

2012/2013 Annual Performance Report - Columbian sharp-tailed Grouse Research

[Download]

File Name	F11AF00255 CSTG Research PR13.pdf
Author	Idaho Department of Fish and Game
Uploaded Date	December 17, 2013

Action Details #60008539 - 2010/2011 Annual Performance Report

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Properties

Project Name	BMP Research: ID-Columbian Sharp-tailed Grouse Research [View Project Details]
Status	Completed
Primary Contact	Brad Compton
Start Date	September 30, 2011
End Date	September 29, 2012
Action Category	Data Collection and Analysis

Action Strategy

Strategy	Measured Output	Output Unit
Research, survey or monitoring - fish and wildlife populations	1	Projects

Activities	Population assessment, Age, size and sex structure

Current Habitat

Habitat Level 1	DESERT SCRUB

Habitat Level 2	Cool Desert Scrub

Directly Benefited Species

Scientific Name	Common Name	Status
Tympanuchus phasianellus	Sharp-tailed Grouse	

Document Attachments

2010/2011 Annual Performance Report - Columbian Sharp-tailed Grouse Ecology

[Download]

File Name	W-184-R-1 PR11.pdf
Author	Idaho Department of Fish and Game
Uploaded Date	December 17, 2013

Action Details #60009905 - 2011/2012 Annual Performance Report

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Properties

Project Name	BMP Research: ID-Columbian Sharp-tailed Grouse Research [View Project Details]
Status	Completed
Primary Contact	Brad Compton
Start Date	October 1, 2011
End Date	September 30, 2012
Action Category	Data Collection and Analysis

Action Strategy

Strategy	Measured Output	Output Unit
Research, survey or monitoring - fish and wildlife populations	1	Projects

Activities	Population assessment, Age, size and sex structure

Current Habitat

Habitat Level 1	DESERT SCRUB
Habitat Level 2	Cool Desert Scrub

Directly Benefited Species

Scientific Name	Common Name	Status
Tympanuchus phasianellus	Sharp-tailed Grouse	

Document Attachments

2011/2012 Annual Performance Report - Columbian sharp-tailed Grouse Research

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File Name	W-184-R-1 PR12.pdf
Author	Idaho Department of Fish and Game
Uploaded Date	December 17, 2013