

IDAHO DEPARTMENT OF FISH AND GAME

Ed Schriever, Director

**Project F16AF00888
Amendment 5**

Interim Performance Report



Statewide Surveys & Inventory

July 1, 2016 to June 30, 2019

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Federal Aid in Wildlife Restoration Annual Performance Report

State: Idaho

Grant number: F16AF00888 Amendment 5

Grant name: Statewide Surveys & Inventory

Report Period: July 1, 2018 through June 30, 2019

Report due date: September 28, 2019

Geographic Location Statewide

Purpose

The purpose of this grant is to conduct surveys and inventories throughout Idaho that will inform and improve management of wildlife species, allowing IDFG and the Commission to fulfill their primary mission.

Need:

There is a need to conduct statewide Idaho game surveys and inventory to inform the management program, which includes 12 big game species (mule deer, white-tailed deer, elk, pronghorn, moose, Rocky Mountain and California bighorn sheep, mountain goat, black bear, mountain lion, wolves and grizzly bears), upland game, migratory birds, small game, and furbearers. Management efforts include data collection and analysis to determine population status, distribution and trend; evaluation of movements and habitat use; translocations to augment populations; analysis of harvest; assessing hunter and trapper attitudes and opinions; and providing technical assistance to private and public land management agencies for the effective conservation and management of wildlife.

Measurable Objective(s)

Administer 1 grant by 30 June 2019.

Capture, radio-mark, and/or telemetry monitoring of 19 species by 30 June 2019.

Survey and/or monitor 32 species by 30 June 2019.

Estimate harvest for 35 species by 30 June 2019.

Reintroduce and/or stock 3 species by 30 June 2019.

Consult with 10 entities by 30 June 2019.

Expected Results and Benefits

See individual project reports contained herein.

If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

N/A

Describe how objectives were met:

See individual project reports contained herein.

Discuss differences between work anticipated in grant proposal and grant agreement, and that actually carried out with WSFR grant funds; include differences between expected and actual costs

N/A

List any publications or in-house reports resulting from this work.

See Appendix.

Project 1 – Coordination and Administration

Need:

The Idaho Department of Fish and Game (Department) is apportioned funding each year under the Pittman-Robertson Wildlife Restoration Act. These funds are administered by the Wildlife and Sport Fish Restoration Program (WSFR) of the U.S. Fish and Wildlife Service (FWS) and utilized by the Department through approved grant agreements for eligible projects. Approved projects must have as their objective the restoration, conservation, management, or enhancement of wild birds, wild mammals, or provide for public use and benefit from these resources. The use of these funds requires considerable coordination and administration, from the application process through cost accounting and performance reporting. Furthermore, to maintain eligibility, the Department must establish and maintain management control systems adequate to meet requirements for participation in these federal assistance programs, and must comply with applicable Federal laws and regulations.

The Department and the Idaho Fish and Game Commission are charged with the preservation, protection, perpetuation, and management of all wildlife to provide continuous supplies for hunting, trapping, and other wildlife-based opportunities. Management recommendations and actions, including establishment of appropriate harvest levels, require scientific information on population distribution, size, trend, health status, survival, and cause-specific mortality.

In state FY2019, 140 employees worked, at least part-time, in the Wildlife Survey and Inventory Program. Each of 7 administrative regions and headquarters office staff employ a seasonal work force comprised of volunteers, Department reservists, temporary employees, and contract personnel to complete necessary activities associated with the Wildlife Survey and Inventory Program. This large work force requires careful coordination and administration to fulfill project objectives.

Purpose:

The purpose of this project is to survey Idaho's wildlife populations to document population size and composition, changes in population trend and adjust management actions to promote sustainable populations.

Measurable Objective(s):

Administer 1 grant by 30 June 2019.

Expected Results and Benefits:

This project will provide staff, procedures and materials necessary to ensure the Department meets its responsibilities for participation in the Wildlife Restoration Program, including recruiting, hiring, work planning, record keeping, reporting, supervision of field staff, and coordination of federal aid activities with other state and agency programs. Effective administration of these federal assistance programs results in proper and efficient use of available program funding and maximizes potential benefits to wildlife resources and user groups.

This project will ensure that the Wildlife Survey and Inventory Program is adequately staffed, trained, and supervised so program objectives are achieved and contract obligations are fulfilled.

Approach:

The Principal Investigator (PI), a State Wildlife Game Manager with the Bureau of Wildlife, with input from program leaders, will manage all WR activities and assign personnel and resources to the activities. The PI will coordinate activities with other PIs with Wildlife Restoration Programs to minimize duplication of effort, share monitoring data, and research results.

Supervision, administration, and coordination will be implemented to effectively and efficiently utilize the workforce and other resources. Current wildlife habitat and population information will be provided upon request on proposed projects or activities within individual districts, regions, or statewide.

Results

Management recommendations and actions, including establishment of appropriate harvest levels, require scientific information on population distribution, status, trend, health status, survival, and cause-specific mortality. The survey and inventory program was implemented during this grant cycle by 55 primary full time staff distributed among 9 offices in 7 administrative regions of the state. An additional 85 staff (seasonal temporaries and other full time staff associated with other projects) contributed to the grant objectives part time. These staff persons required supervision, coordination, and administration to effectively and efficiently implement the survey and inventory program. Lead program staff for the Survey and Inventory grant met together with 8 Regional Wildlife managers once during the grant cycle to develop strategies and prioritize captured efforts and program managers from the headquarters wildlife bureau held a work plan meeting in each of the 7 administrative regions to discuss program obligations, resources, and priorities to accomplish survey and inventory program objectives. Additionally, all regional wildlife managers and key program leaders met during summer to prioritize winter big game survey activities. Numerous telephone conferences and staff meetings were held throughout the year among wildlife managers and staff around the state to provide input and direction to ensure objectives were accomplished.

Project 2 – Capture, Radio-mark, and/or Telemetry Monitoring

Need:

The Idaho Department of Fish and Game and the Idaho Fish and Game Commission are charged with the preservation, protection, perpetuation, and management of all wildlife to provide continuous supplies for hunting and other wildlife-based opportunities. Management recommendations and actions, including establishment of appropriate harvest levels, require scientific information on population distribution, status, trend, health status, survival, and cause-specific mortality.

Continuation of statewide population monitoring efforts through capture, radio-marking and/or telemetry monitoring will provide population health information and aid in improving our understanding of survival, mortality factors, and seasonal movement information critical to assessing population status.

Purpose:

The purpose of this project is to survey Idaho's wildlife populations to document changes in populations and adjust management actions to promote sustainable populations for benefit of the hunting public and others.

Measurable Objective(s):

Capture, radio-mark, and/or telemetry monitoring of 19 species by 30 June 2019

Expected Results and Benefits:

This project will benefit the wildlife resources of Idaho by providing wildlife staff with science-based, quantitative data to ensure sound and responsible management of its various wildlife populations. Activities in this project will estimate population size, trend, and sex/age composition of wildlife in selected Game Management Units (GMUs), morphological parameters, and health data.

This project will also provide benefit to hunters. Enhanced management of Idaho's wildlife populations should result in continuous supplies for hunting and other wildlife-based opportunities that meet or exceed the public's expectations.

This project will also benefit local economies as hunters are willing to travel considerable distances to enjoy their passions. Local economies will derive benefits from increased sales of gasoline, food, supplies, lodging, and hunting equipment. The public will benefit from a healthy environment and increased outdoor recreation participation.

Approach:

Job 1 Bighorn Sheep:

Survival, cause-specific mortality, seasonal movements, distribution, range use patterns, and health status of Rocky Mountain and California bighorn sheep will be determined by tag recovery, GPS and VHF radio marking, telemetry, and collection of biological samples.

Rocky Mountain and California bighorn sheep are captured via helicopter net gun, helicopter chemical immobilization, or ground-based chemical immobilization. Ground-based captures

occur by walking low elevation winter range and getting close enough to chemically immobilize with a dart projector. Helicopter captures occur predominately during winter, but summer ram captures are also an option. Baited drop nets may be used during the winter. Transplants may occur where individual bighorn are captured, radio-collared, and transplanted to existing occupied habitat. Monitoring methods include GPS and VHF radio marking, aerial and ground telemetry, and biological sampling. We plan to capture, radio-mark, and/or telemetry monitor 20 adult males, 80 adult females, and 60 lambs for demographic analysis.

Results

The Department continues to monitor survival of 12 radio-marked California bighorn sheep and conduct lamb surveys for marked ewes in GMU 42 (Owyhee River). Monitoring of 4 radio-marked Rocky Mountain bighorns in GMU 59 (South Beaverhead) continues. Fifty-six (56) Rocky Mountain bighorn sheep are also being monitored, including lamb surveys, in the Lost River Range (GMUs 37, 50, 51). Two bighorn sheep were captured and radio-collared in the East Fork PMU (GMUs 36, 36A). Including those sheep, there are 13 active collars in the East Fork that are currently being monitored, including lamb surveys. All active GPS collars continue to provide waypoints used to determine seasonal movements, distribution, and habitat use.

Additional bighorn sheep captured and monitored for research in the Hell's Canyon population management unit (PMU) are reported in the research grant report.

Biological samples were collected from bighorn sheep when they are captured and radio-marked, during necropsy of dead bighorn sheep (marked and unmarked), and from hunter harvested animals. All bighorn sheep hunters (n=97) were mailed a sampling kit to collect biological samples on their harvested bighorn sheep. Additional biological samples were also collected from hunter-harvested bighorns at the regional offices. Sixteen (16) California and 50 Rocky Mountain bighorn sheep were harvested in 2018. Analysis of collected samples will be reported in F16AF00747 Wildlife Health Program.

Job 2 Black Bear:

There were no plans to capture, radio-mark, or telemetry monitoring of black bears under the survey and inventory grant during this year.

Results:

No capture, radio-marking, or telemetry of black bears occurred for the purpose of monitoring during this reporting period. Although nuisance bears are occasionally relocated, black bears were not a focus of department-lead capture or collaring efforts.

Job 3 Elk:

Survival, cause-specific mortality, seasonal movements, distribution, range use patterns, habitat quality, and health status of elk will be determined by tag recovery, GPS and VHF radio marking, aerial telemetry, vegetation sampling, and collection of biological samples.

Aerial capture of elk follows procedures described in the Statewide Wildlife Research grant. Ground-based methods are used when the animals are located near roads, and aerial captures will occur in areas that are more remote. Elk capture activities are conducted on low-elevation elk winter ranges. Non-target species captures are eliminated by visual confirmation prior to capture. Capture methods include helicopter net gun, helicopter chemical immobilization, food source baited clover traps, helicopter drive net, drop-nets or ground-based chemical immobilization. Ground-based captures involve walking or driving low elevation winter range and getting close enough to chemically immobilize.

Monitoring methods include GPS and VHF radio marking, aerial telemetry, and biological sampling. Aerial telemetry monitoring activities are conducted from fixed-wing aircraft along transects >5 miles (mi) apart at a speed of 80 - 150 mph with an altitude of >500 ft AGL. Frequency of telemetry flights range from once every week to once-a-month. After contact of a live or mortality signal, they descend to about 300 ft AGL and circle to pinpoint the location that the signal is coming from, and this usually takes a couple of minutes to do before resuming the search. If a mortality signal is detected, the carcass will be investigated within 24 hours to determine the cause of death. GPS collars reduce the need for most, but not all, telemetry monitoring from aircraft. We plan to capture, radio-mark, and/or telemetry monitor 750 adult females and 240 calves for demographic analysis. We plan to assess habitat quality by completing non-destructive, visual vegetation sampling in selected GMUs.

Results

A total of 196 elk calves were captured, radio collared, and monitored during this report period. Captures took place during December 2018 and January 2019. A total of 135(69%) monitored radio-collared elk calves survived until June 1, 2019. Major causes of mortality included mountain lion and wolf predation.

Biologists captured 58 adult cow elk and monitored them along with 520 cow elk captured and radio-collared in previous years for a total of 578 adult cow elk monitored during this report period. A total of 556 (96%) survived until June 1, 2019. The major cause of mortality was mountain lion predation.

Blood and fecal samples were collected from 58 adult cow elk. These samples are tested for disease surveillance and pregnancy rates. See test results in the Wildlife Lab grant report.

The elk GPS radio collars collect approximately 2 locations a day. The data are used to document seasonal movements, distribution and range use patterns. See results in the Wildlife Research Report.

Job 4 Furbearers:

Beavers and their associated activities on the landscape have been identified as an important tool for riparian restoration in a variety of habitat types in Idaho. The Department plans to live trap and mark (telemetry tag) beaver throughout the state. Tagged beaver will fall into two categories: 1) Beavers that will be released into waterways that have been identified as potential sites for restoration, but are absent of beavers; or 2) Resident beavers in streams that are suspected (based on habitat modeling) to be below carrying capacity. Survival, cause-specific mortality, seasonal

movement, dispersal rates/distances and establishment rate of marked individuals quantified through this tagging effort. This information will inform restoration activities to better guide management actions in future efforts.

Most beavers used for restoration efforts are individuals that have been identified as causing damage to private property and/or infrastructure, thus the number, sex, and age of animals is unknown in advance. Capture and relocation efforts are primarily opportunistic (see project 5). For captures of resident beavers in streams with known populations, the Department plans to prioritize tagging efforts on 2 yr olds individuals of either sex.

Results

In the southwest region population program staff worked with wildlife diversity staff to capture and transport one adult beaver. This beaver was not radio-tagged. In the Upper Snake region, population staff worked with diversity staff to capture 12 beavers. These animals were processed under our disease transmission minimization guidelines; 7 were fitted with tail-mounted radio transmitters and are monitored opportunistically. Animals were released in 2 areas: the Duck Creek drainage in GMU 61 (where beaver dam analogs have previously been installed), and Modoc Creek in GMU 59.

No animals were trapped and/or marked in the Southeast or Salmon Regions.

Job 5 Gray Wolf:

Seasonal movements, distribution and range use patterns of gray wolves will be determined by GPS radio marking, and collection of biological samples.

In past years, the Department used aircraft to capture wolves for monitoring purposes, primarily during December through March, and to monitor radio-marked wolves throughout the year. During those years, radio-marked wolves were typically used to pinpoint the pack's location using a Supercub or small Cessna airplane flying at >500 AGL. Aerial telemetry activities are conducted from fixed-wing aircraft at a speed of 80 - 150 mph with an altitude of >500 feet AGL. Monitoring occurred approximately monthly from high altitude (>500 AGL). In recent years, the Department has switched over almost exclusively to using GPS radio-collars which reduce the need for most aerial monitoring flights, except when there is a need for visual observation.

Wolves are captured using Service-approved protocols including chemical immobilization. Capture may include use of a helicopter, often on low elevation winter range where deer and elk (primary prey base) are concentrated. Unmarked wolves are selected for capture unless there is a need to replace an older radio collar. The helicopter proceeds at a high altitude (>500 ft AGL) and cruising speed (40-65 mph) to the pack's location until the wolves are observed at which time the helicopter will descend for capture using immobilizing drugs or a net gun. The Department also uses Service-approved protocols for capture of wolves with padded foot-hold or offset/laminated traps. In rare cases pups may be captured by hand at den sites. We plan to capture, radio-mark, and or telemetry monitor approximately 4 wolves for demographic analysis.

Results

No wolves were captured and radio-marked specifically for population and monitoring purposes during this reporting period. However, wolves captured for other purposes (e.g., predation management, livestock depredation control) with other funding sources were monitored with radio telemetry and GPS collar coordinate uploads for monitoring of survival, seasonal movements and distribution under this grant.

Job 6 Grizzly Bears:

Survival, cause-specific mortality, season movements, distribution, prey selection, and range use patterns of grizzly bears will be determined by telemetry, tag recovery, GPS and VHF radio marking, and collection of biological samples. We plan to capture and monitor approximately 5 grizzly bears in eastern Idaho during the grant period. Capture will be accomplished with culvert traps or foothold snares and chemically immobilized with a dart projector using federally-approved protocols.

Results

Department personnel chemically immobilized 12 grizzly bears in the Upper Snake Region captured using Culvert traps and foot snares, . This included 6 females and 6 males. Nine of those bears had no previous capture records; and 8 bears were fitted with GPS radio collars for year-round monitoring. All trap sites received prior approval from the land management agencies. Trapping efforts and trap site signing followed protocols established by the Interagency Grizzly Bear Study Team. By radio-collaring bears, we document age of first reproduction, average litter size, cub and yearling survival, how often a female produces a litter, causes of mortality, and estimates of survival among different sex and age classes of bears.

Job 7 Migratory Game Birds:

Survival, cause-specific mortality, harvest information, seasonal movements, distribution, and range use patterns of migratory birds will be determined by telemetry, banding, band recovery, and GPS marking. Capture methods include hand capture (e.g., pursuing juveniles on foot or with a vehicle), swim-in traps, walk-in traps, noose carpets/foot snares, night light/netting, and rocket nets. We plan to capture and band mallards as part of the Western Mallard model banding needs assessment; band mourning doves as part of the mourning dove harvest strategy, and capture and/or monitor sandhill cranes. We plan to band 700 waterfowl and capture and/or monitor 10 sandhill cranes.

Results

During the reporting period, 1,476 mallards were captured and banded in the Panhandle, Southwest, and Upper Snake regions to inform the Western Mallard Adaptive Harvest Management model for the Pacific Flyway. An additional 417 ducks – primarily gadwall and wood ducks – were banded during capture operations.

Sandhill cranes were captured in the Southeast and Upper Snake Regions during the reporting period. In the Southeast Region, 9 birds were captured and banded; 8 birds were fitted with GPS

transmitters. In the Upper Snake Region, six cranes were captured, banded, and fitted with GPS transmitters.

Mourning doves were captured and banded in nearly every region of the state. Overall, 525 mourning doves were banded in Idaho to inform and support the national mourning dove harvest strategy.

Job 8 Moose:

Survival, cause-specific mortality, seasonal movements, distribution, health status, and range use patterns of moose will be determined by tag recovery, GPS and VHF radio marking, telemetry, and collection of biological samples.

Capture methods include helicopter or ground based chemical immobilization. Monitoring methods include GPS and VHF radio marking, telemetry, and biological sampling. We plan to capture, radio-mark, and/or telemetry monitor moose (5 adult males and 15 adult females) for demographic analysis.

Results

In January of 2018, 13 moose were captured and radio-marked in the Clearwater and Southeast Regions. These collars are no longer on the moose collecting data. After preliminary analysis of the data from these GPS collars, we decided not to deploy collars during this reporting period pending data analysis and additional planning.

Some moose were radio-marked when they were captured and moved out of urban areas. These animals are reported in capture and translocation. Biological samples were collected from radio-marked moose during capture and during necropsy of dead moose that were found in the regions. Analysis of samples will be reported in F16AF00747 Wildlife Health Program.

Job 9 Mountain Goat:

Survival, cause-specific mortality, seasonal movements, distribution, range use patterns, and health status of mountain goat will be determined by tag recovery, GPS and VHF radio marking, telemetry, and collection of biological samples.

Capture methods include helicopter net gun, helicopter chemical immobilization, or ground-based chemical immobilization. Monitoring methods include GPS and VHF radio marking, telemetry and biological sampling. We plan to capture, radio-mark and/or telemetry monitor approximately 10 mountain goats for demographic analysis.

Results

No additional mountain goats were captured and radio-marked during this reporting period. Monitoring (including telemetry) continues for 2 GPS radio-collared mountain goats in the Clearwater Region and 4 radio-collared mountain goats in the Upper Snake Region. GPS collars

continue to provide location data used to determine seasonal movements, distribution, and habitat use.

Biological samples were collected from hunter harvested mountain goats. All mountain goat hunters (n = 48) were mailed a sampling kit to use to collect biological samples on their harvested goat. Additional biological samples were collected at the regional offices. Hunters harvested 37 mountain goats in 2018. Analysis of samples will be reported in F16AF00747 Wildlife Health Program.

Job 10 Mountain Lion:

Survival, cause-specific mortality, seasonal movements, territory use patterns, and health status of mountain lion will be determined by GPS radio marking, telemetry, and collection of biological samples. Mountain lions will be captured in the winter by treeing the animals using trained dogs. Once treed, the mountain lion will be chemically immobilized and radio-collared. Traps used will be culvert, foothold, or foot snares. All personnel involved with tracking cougar have years of experience in trapping and treeing cougars. GPS Telemetry collars will be monitored via satellite. We plan to capture, radio-mark, and/or monitor 2-10 mountain lions for demographic analysis.

Results

During FY19, Southeast Region staff captured 3 mountain lions in response to conflict with homeowners. All 3 were opportunistically equipped with GPS collars and monitored. Of the 3, one was harvested in fall 2018 in Montana. While nuisance mountain lions are occasionally captured and relocated, mountain lions are not a focus of department-lead capture or collaring efforts.

Job 11 Mule Deer:

Survival, cause-specific mortality, seasonal movements, distribution, range use patterns, and health status of mule deer will be determined by tag recovery, GPS and VHF radio marking, telemetry, and collection of biological samples.

Capture methods include helicopter net gun, helicopter chemical immobilization, clover traps, camera traps, helicopter drive net, drop-nets or ground-based chemical immobilization. Ground-based captures involve walking or driving low elevation winter range and getting close enough to chemically immobilize. Ground-based capture methods will be used when the animals are located near roads. Mule deer capture activities (*e.g.*, drop nets, drive nets using helicopters, clover traps, helicopter net gun) are conducted on low-elevation deer winter ranges. Non-target species captures are eliminated by visual confirmation prior to capture while using drop nets, drive nets, aerial darting, or helicopter net guns. Bait for clover traps is limited to attractants for mule deer (*e.g.*, alfalfa, corn, grain). If darting or netting animals, the helicopter will descend to an altitude of about 30 ft AGL to deliver a sedative dart or net the animal before landing.

Monitoring methods include GPS and VHF radio marking, telemetry, and biological sampling. Aerial telemetry activities are conducted from fixed-wing aircraft at a speed of 80 - 150 mph with an altitude of >500 feet AGL. Frequency of telemetry flights may range from once every

week to once-a-month. GPS radio collars considerably reduce the need for most aerial monitoring flights. We plan to capture, radio-mark, and/or telemetry monitor approximately 750 adult females, and 180 fawns for demographic analysis.

Results

A total of 209 mule deer fawns were captured, radio collared and monitored during this report period. Capture took place during December 2018 and January 2019. A total of 87 fawns survived (42%) until June 1, 2019. Major causes of mortality included malnutrition, coyote and mountain lion predation.

Biologist's monitored 539 adult mule deer does during this report period. A total of 492 survived (91%) until June 1, 2019. The major cause of mortality was mountain lion predation.

Blood and fecal samples are collected from each adult doe captured. These samples are tested for disease surveillance pregnancy rates. Results can be found in the Wildlife Lab Report.

The GPS radio collars collect approximately 2 locations a day. The data will be used to document seasonal movements, distribution and range use patterns. Results can be found in the Wildlife Research Report.

Job 12 Pelican:

Determination of breeding status and nesting locations of pelicans foraging on Yellowstone Cutthroat Trout (YCT) in the Blackfoot River system was identified as a need in the Management Plan for the Conservation of American White Pelicans in Idaho 2016- 2025.

Capture: We will diversify our captures as much as possible, both temporally (early May through late June) and geographically (mouth of the Blackfoot River up through the Blackfoot River WMA) to increase the likelihood of encompassing the full picture of pelicans using the river. Most birds taken during depredation efforts have been male, and all depredation hazing activities have taken place during daylight hours. We will attempt to capture a sample of birds at night using net guns and/or leg hold traps in case some of this gender bias is a result of different temporal foraging strategies. We expect hazing activities to continue during this project, and we do not want birds with transmitters to be inadvertently shot, each pelican fitted with a transmitter will also be painted with red dye on both wings to enable hazers to identify them. Because these PTTs also contain a VHF transmitter (primarily for retrieving transmitters from dead birds), we will equip hazers with receivers that will enable them to determine if a marked bird is in the area. The hazers will document whether an individual was within a hazed group and whether an accompanying bird was shot, potentially allowing us to determine individual effects of hazing. We will document where the bird subsequently chooses to forage.

Transmitters: Pending results from the 2018 effort, we will deploy up to 10 backpack Solar GSM/GPS transmitters (also known as PTTs – Platform Transmitter Terminals) between early May and late June 2019, on pelicans found within the Blackfoot River system. Because our objectives concern resource selection as opposed to survivorship, we anticipate that the 2018 sample size of 20 will be adequate given the typical range of pelican numbers detected during hazing activities on the river (approx. 20–200). The first year of this project (2018) will

determine if the sample size is indeed adequate, or if more transmitters need to be deployed in 2019. The need for additional transmitters would primarily result from a more diverse foraging population than anticipated. As our primary interest is foraging activity during the breeding season (i.e., when pelicans are present in Idaho), transmitters will be set to collect frequent locations (ideally hourly during daylight hours and twice during the night) from April through August, and less frequent locations (e.g., once per day) from September through March. Final determination of data frequency timing will be made after consultation with the transmitter manufacturer, and assessment of technological capability for meeting our information needs.

Results from this project will directly inform the Department's management strategies to address pelican predation on YCT in the Blackfoot River. This project will determine whether pelicans foraging on YCT in the river are breeding, and if so, at which regional nesting colony. This information will allow the Department to focus both lethal and nonlethal management activities in the most effective manner, and in the most effective place(s), to reduce predation on YCT in the river system (e.g., if a large proportion of foraging birds are not breeders from the Blackfoot colony, this would indicate the need to increase focus on the river itself for hazing and habitat work to protect fish from predation).

Results

Results from capture activities in 2018 revealed a heavily male-biased trapped population. None of the 25 pelicans captured in 2018 were females. The Department concluded that any additional transmitters that may be deployed needed to be attached to females. This would likely necessitate capturing females on the nesting colony itself. As the Department was not comfortable with the potentially high levels of disturbance that would entail, no transmitters were deployed in 2019. The Department will continue to explore other avenues for capturing female pelicans in the Blackfoot River system.

Job 13 Pronghorn:

Survival, cause-specific mortality, seasonal movements, distribution, range use patterns, and health status of pronghorn will be determined by tag recovery, GPS and VHF radio marking, telemetry, and collection of biological samples.

Capture methods include helicopter net gun, helicopter chemical immobilization, clover traps, camera traps, helicopter drive net, and drop-nets or ground-based chemical immobilization. Monitoring methods include GPS and VHF radio marking, telemetry, and biological sampling. We plan to capture, radio-mark, and/or telemetry monitor 50 adult males, 100 adult females, and 100 fawns for demographic analysis. See project 2 table for details.

Results

Department staff captured pronghorns in GMUs 39, 40, 41, and 45. All captured pronghorn were fitted with GPS collars and biological samples were collected during capture. Analysis of samples will be reported in F16AF00747 Wildlife Health Program. Survival, cause-specific mortality, migration, and habitat use will be derived from the data collected from the radio-marked animals. In March 2019, 13 female pronghorn were captured and radio-collared in GMU

39 and 9 were captured and marked in GMU 45. Seven (7) female pronghorn were captured and radio-collared in GMUs 40 and 41.

Job 14 Upland Game:

Survival, cause-specific mortality, seasonal movements, distribution, and range use patterns of upland game will be determined by GPS and VHF radio marking, telemetry, banding, and tag recovery.

Grouse capture methods include walk-in traps, night-lighting, and rocket nets. Non-target captures are released unharmed. Other capture methods include hand netting, ground traps, and rocket netting. We plan to capture and monitor Columbian sharp-tailed grouse, greater sage-grouse, and wild turkeys.

Results

No Columbian sharp-tailed grouse, greater sage-grouse, or wild turkeys were captured and marked for monitoring or demographic purposes during this reporting period. All capture and telemetry efforts for greater sage-grouse were conducted under the F16AF00908 Research grant.

Job 15 White-tailed Deer:

Survival, cause-specific mortality, seasonal movements, distribution, range use patterns, and health status of white-tailed deer will be determined by tag recovery, GPS and VHF radio marking, telemetry, and biological sampling.

Capture methods include helicopter net gun, helicopter chemical immobilization, food source baited clover traps, helicopter drive net, drop-nets or ground-based chemical immobilization. Ground-based captures involve walking or driving low elevation winter range and getting close enough to chemically immobilize. Helicopter captures also occur at low elevation big game winter ranges.

Monitoring methods include GPS and VHF radio marking, telemetry, and biological sampling. Aerial telemetry activities are conducted from fixed-wing aircraft at a speed of 80 - 150 mph with an altitude of >500 feet AGL. Frequency of telemetry flights range from once every week to once-a-month. We plan to telemetry monitor approximately 50 adult females for demographic analysis.

Results

No capture of white-tailed deer occurred for purposes of monitoring or demographic information during this reporting period under this grant. However, research was initiated in portions of GMU 10A and 15, and capturing and radio collaring were a part of that research. Please see F16AF00908 State Wildlife Research Report FY19 for more information.

Project 3 – Survey and Monitoring

Need:

The Idaho Department of Fish and Game and the Idaho Fish and Game Commission are charged with the preservation, protection, perpetuation, and management of all wildlife to provide continuous supplies for hunting and other wildlife-based opportunities. Management recommendations and actions, including establishment of appropriate harvest levels, require scientific information on population distribution, status, trend, health status, survival, and cause-specific mortality.

The proposed wildlife surveys are critical to assess population status relative to management plan objectives, and population trends. Metrics of population size inform our assessment of management actions, including harvest seasons and bag limits for game species.

Purpose:

The purpose of this project is to survey Idaho's wildlife populations to document changes in populations and adjust management actions to promote sustainable populations.

Measurable Objective(s):

Survey and/or monitor 32 species by 30 June 2019

Expected Results and Benefits:

This project will benefit the wildlife resources of Idaho by providing wildlife staff with science-based, quantitative data to ensure sound and responsible management of its various wildlife populations. Activities in this project will estimate population trend and sex/age composition of wildlife in selected GMUs and an assessment of hunter harvest, hunter participation, morphological parameters, and health data from hunter harvested wildlife. In addition, staff can provide timely and science-based information regarding wildlife and wildlife habitat through technical assistance, resulting in minimized negative impacts and maximized positive impacts to wildlife and wildlife habitat.

This project will also provide benefit to hunters. Enhanced management of Idaho's wildlife populations allow the Department to ensure continuous supplies for hunting and other wildlife-based opportunities that meet or exceed the public's expectations.

This project will also benefit local economies as hunters are willing to travel considerable distances to enjoy their passions. Local economies will derive benefits from increased sales of gasoline, food, supplies, lodging, and hunting equipment. Society will benefit from a healthy environment and increased outdoor recreation participation.

Approach:

Job 1 Bighorn Sheep:

Conduct monitoring to determine Rocky Mountain and California bighorn sheep herd abundance and age/sex composition data in selected GMUs. Data collected will include total numbers of adult males, yearling males, adult females, and young by location. Aerial surveys follow protocols outlined in the Aerial Survey User's Manual (Unsworth et al). The state is divided into 99 GMUs which are combined into Population Management Units (PMUs) (Idaho Bighorn

Sheep Management Plan 2010). PMUs are surveyed approximately every 3 - 8 years. Total number, age/sex composition data will also be collected using ground observations and cameras. We plan to survey 21 GMUs (aerial and ground) and fly an estimated 43 hours.

Activity:

Results

Herd composition data was collected in 6 GMUs during lamb surveys (ground monitoring and fixed wing surveys during the spring and fall). This data was collected in the Owyhee River (GMU 42), East Fork (GMUs 36, 36A), and Lost River PMUs (GMUs 37, 50, 51) using radio-marked bighorn sheep.

A total of 12 GMUs were surveyed by helicopter to generate estimates of herd abundance and age and sex ratios. This took a total of approximately 54 hours.

The Bruneau-Jarbridge PMU (GMUs 41, 46, 47) was surveyed by helicopter in July 2018. There were 133 total bighorn sheep counted, including 90 ewes, 23 lambs, and 20 rams. Three bighorn sheep were observed in the South Hills PMU (GMU 54) during the July 2018 survey. One ewe, 1 lamb, 1 ram. In July 2018, 67 bighorn sheep were counted during the Jim Sage PMU (GMU 55) survey. This includes 35 ewes, 18 lambs, and 14 rams.

The Lower Salmon PMU (GMUs 14, 19, 19A, 20, 20A) was surveyed by helicopter in March 2019. A total of 425 bighorn sheep were counted (238 ewes, 67 lambs, 118 rams, 2 unclassified). In July 2018, bighorn sheep were surveyed in the South Lemhi PMU (GMUs 51, 58). A total of 80 bighorn sheep were counted (35 ewes, 15 lambs, 24 rams, 6 unclassified).

Job 2 Black Bear:

Black bears will be monitored incidental to camera trap surveys for wolf distribution during this grant period. The Department will monitor 176-220 unbaited remote cameras deployed in a stratified random sampling framework across the state. Cameras will be placed in the field during June, and data cards retrieved during early fall. We will determine location of all harvested black bears (for monitoring purposes) through a mandatory harvest check.

Results

Population monitoring consisted of monitoring trends in harvest demographics (sex and age obtained from tooth cementum analysis) via mandatory checks of all harvested bears.

Black bears were monitored incidentally to camera trap surveys for wolf distribution during this grant period. Department personnel deployed a total of 725 unbaited cameras in the field during June 2019. During early fall 2018, data cards were retrieved from 416 cameras deployed during the previous report period. Analysis of grizzly bear images obtained from cameras will be in cooperation with F16AF00908 State Wildlife Research Report FY19.

Job 3 Elk:

Conduct aerial survey sightability counts to determine elk herd abundance and age/sex composition data in selected GMUs. Data collected will include total numbers of adult bulls (including age class informed by antlers), yearling bulls, cows, and calves by location.

Survey methods for elk include aerial and ground-based observations as well as remote camera stations. Aerial surveys follow protocols outlined in the Aerial Survey User's Manual (Unsworth, et al). Helicopters (Hiller 12E, Bell 47, Hughes 500, Bell 206 or similar) are flown along elevation contour transects 300 - 500 ft apart, at a speed of 40 - 50 mph, and at an altitude of 100 - 150 ft above ground level (AGL). When animals are observed, the total number, sex/age composition, screening cover, snow cover, activity (bedded, standing, moving), and GPS location are recorded. Each of the GMUs is surveyed for elk every 3 - 5 years. Surveys are only conducted on low elevation big game winter ranges. Monitoring methods include non-destructive visual vegetation sampling, remote camera, and DNA surveys. We plan to fly an estimated 202 survey hours surveying 9 GMUs. We plan to deploy and/or monitor 470 remote camera stations.

Results

In the Hells Canyon Zone which includes game management units (GMU) 11, 13 and 18, an aerial survey was flown during January 2019. A total population estimate of 3,892 elk was calculated, including: 2,556 cows, 799 bulls and 577 calves. This resulted in a bull:cow:calf ratio of 31:100:23.

An aerial sightability survey was performed in the Weiser River Zone which includes GMUs 22, 32 and 32A between Jan 14 – Feb 12, 2019. The total population estimate for the zone was 8,505 elk (5,409 cows, 1,234 bulls, 1,862 calves). This resulted in a bull:cow:calf ratio of 23:100:34. The current estimate exceeds population objectives.

An aerial sightability survey was conducted during late Jan 14 – Feb 12, 2019, in the Brownlee Elk Zone which include GMU 31. Survey results estimate 1,874 elk (942 cows, 599 bulls, and 334 calves) in the zone. This resulted in a bull:cow:calf ratio of 64:100:35. The current estimate exceeds population objectives.

During January 2019, a sex/age composition survey was flown in parts of the Sawtooth zone including GMUs 33 and 35. A total of 1,173 elk were classified, resulting in a calf:cow ratio of 33:100.

Job 4 Furbearers:

Conduct furbearer surveys using various sampling techniques and using Occupancy Modeling to estimate various population trends. The primary techniques for collecting data on presence/absence of furbearers are DNA analysis from hair snaring, remote cameras, eDNA, snow tracks, aerial surveys, latrine surveys, and ground surveys. Riparian areas will be surveyed for current/past beaver presence, and a subset of locations will be identified as areas for potential translocation efforts.

We will conduct camera/DNA surveys to determine fisher and other forest carnivore populations. From approximately the beginning of December to the end of March, approximately

155 non-invasive baited remote camera stations with corresponding hair snares will be set to determine the occupancy rate of fisher and other forest carnivores in Idaho. These stations include road-killed game as bait, a long-call lure, and a configuration of gun brushes to snag hair for DNA. This effort will be mirrored by Montana Fish, Wildlife and Parks to determine the distribution and overall rate of fisher occupancy in the northern Rocky Mountains population. This rate of occupancy, combined with DNA samples that provide insight on connectivity and sex structure, will be used to investigate how broad forest composition influences fisher populations. Additionally, this work will serve as a baseline of fisher occupancy in Idaho with the intention of combining fisher and wolverine camera trap/DNA sampling efforts in future years. We also plan to conduct 30 snow track surveys.

Efforts to survey and inventory areas for potential beaver translocations will be conducted throughout the year. Stream gradient, woody vegetation composition (forage), evidence of past/present beaver activity, and potential for conflict will be evaluated to determine suitability of sites. A subset of sites will be chosen to have beavers introduced in an effort to restore and improve riparian habitat.

An eDNA approach will be evaluated as a survey technique for river otters. Water samples will be collected in late summer/ early fall in conjunction with conventional latrine survey techniques to investigate method based detection probabilities and cost estimates. Environmental covariates (water temp, pH, stream transport, and channel complexity) and sampling rates/sample locations will be investigated to determine how these factors influence detection. This work will serve as a pilot to determine if an eDNA approach is a feasible option for the Department to monitor otter populations in future efforts.

Through voluntary submission, the Department will collect the bottom jaws of harvested bobcats to document the age structure of the harvested population statewide. We plan to deploy 150 DNA hair snare/camera trapping stations to monitor fisher and other forest carnivores in 59 GMUs. Riparian zones will be surveyed for potential beaver translocations in up to 47 GMUs. Water samples for eDNA based otter detection will be collected in 15 GMUs. Bobcat jaws will be collected from harvested bobcats statewide from the trapping and hunting season.

Results

A fisher occupancy study using baited camera stations (baited with bait for accessible stations, and a scent pump that dispenses lure for inaccessible stations.) was conducted in the Panhandle, Clearwater, McCall sub region, and the Salmon region. Through 10 hired technicians, approximately 90 accessible stations were deployed and monitored from December 2018 through March 2019. In addition to diversity staff, other regional staff assisted in deployment of cameras (accessible and inaccessible), and approximately 10 cameras were monitored by regional staff. Stations collected photos and hair for DNA extraction. This work collected important data on fisher, wolverine, marten, red fox, bobcat, and other mesocarnivores.

All regions participated in the voluntary collection of bobcat jaws from harvested bobcats. For the 2018 season, over 300 jaw samples were collected representing ~25% of the harvest statewide. Teeth are being processed for DNA to confirm sex and being sent to a lab for aging.

No otter eDNA or latrine surveys were conducted this year. In lieu of field work, eDNA samples collected from areas known to have otter populations were compared against otter eDNA assays to determine the feasibility of this tool for monitoring river otter populations.

In the Southeast, Upper Snake, and Salmon regions, sites of known beaver activity were documented to inform the development of the Idaho Beaver Restoration Assessment Tool (BRAT). In the Upper Snake regions, multiple sites were assessed for habitat quality for potential translocation sites.

Job 5 Gray Wolf:

We will evaluate the distribution of wolves through occupancy modeling and by examination of the locations of harvested wolves.

Methods include conducting surveys to determine wolf abundance for packs in selected GMUs. Surveys are conducted by investigating predicted rendezvous sites, and sampling any wolf scats encountered. DNA from scats is used to establish individual genotypes to determine the number of adult and young of the year wolves by gender in the selected packs.

We will monitor 176-220 unbaited remote cameras deployed in a stratified random sampling framework across the state. Cameras will be set out during June, and data cards retrieved during early fall. We will determine location of all harvested wolves for monitoring purposes through a mandatory check of harvested wolves. These data will be used in conjunction with a variety of covariates in an occupancy model framework to determine wolf distribution. In addition, non-invasive genetic surveys will be conducted in >3 GMUs.

Results

In June 2019, Department staff deployed 725 unbaited remote cameras deployed in a stratified random sampling framework across the state. Data cards retrieved during early fall. During early fall 2018, data cards were retrieved from 416 cameras deployed during the previous report period. A total of 2,576 images were collected from FY2018 cameras. We will determine location of all harvested wolves for monitoring purposes through a mandatory check of harvested wolves. These data will be used in conjunction with a variety of covariates in an occupancy model framework to determine wolf distribution. Analysis of wolf images obtained and occupancy estimates from cameras will be in cooperation with F16AF00908 Statewide Wildlife Research Report FY19.

Job 6 Grizzly Bears:

Grizzly bears will be monitored through remote cameras deployed in a stratified random sampling framework in the Panhandle and Upper Snake regions and will be monitored incidental to camera trap surveys for wolf distribution throughout the grant period. Cameras will be placed in the field during June and data cards will be retrieved during early fall. We will determine location of any harvested grizzly bear (for monitoring purposes) through a mandatory harvest check.

Results

Grizzly bears were monitored through remote cameras deployed in the Panhandle and Upper Snake regions and were monitored incidental to camera trap surveys for wolf distribution throughout the grant period. During fall 2018, data cards were retrieved from cameras deployed during the FY18 reporting period. Cameras were placed in the field during June 2019 and data cards will be retrieved during early fall 2019.

Upper Snake Regional staff performed aerial surveys with a focus of locating females with young. Surveys are conducted in 4 flight observation units in June and repeated in July. Six (6) grizzly bears were observed during surveys conducted in July, 2018 and June, 2019, which included a sow with 3 yearlings and 2 lone bears. In the Greater Yellowstone Ecosystem the annual grizzly bear population estimate is derived from the number of unduplicated females with cubs of the year observed. To augment survey flight efforts, an additional 21 cameras were deployed between June and August 2018 with the primary purpose of monitoring female grizzly bears and cubs of the year in the project area, exceeding the objective by 13 cameras. We had 48 site visits by grizzly bears, including a site visit by a female with cubs of the year.

Job 7 Migratory Game Bird:

Conduct migratory game bird surveys in selected GMUs to assess population status and trend, seasonal movements, distribution, and range use patterns.

Surveys methods include aerial and ground surveys. Waterfowl breeding pair and brood surveys are conducted in May - August. Canada goose nest count surveys are conducted in April and May. Wood duck box monitoring is conducted in spring and summer. Waterfowl migration surveys are conducted in spring and fall. Sandhill crane staging surveys and trumpeter swan productivity surveys are conducted in September. We plan to conduct, Canada goose nest surveys, wood duck box surveys, waterfowl migration, pair, and brood surveys, ground and aerial survey to estimate abundance, productivity, and distribution of trumpeter swans during late summer, and aerial and ground surveys to estimate abundance and distribution of sandhill cranes.

Results

Staff in the Magic Valley, Southeast, and Upper Snake regions participated in the September 2018 Survey of the Rocky Mountain Population of Greater Sandhill Cranes. Trumpeter swan productivity surveys were conducted in conjunction with this survey effort.

Canada goose nest surveys, wood duck nest box monitoring, swan migration surveys, and duck pair and brood counts were conducted in the Panhandle Region.

Job 8 Moose:

Conduct aerial counts to determine moose herd abundance and age/sex composition data in selected GMUs. Data collected will include total numbers of adult males, adult females, and young. Aerial surveys follow protocols outlined in the Aerial Survey User's Manual (Unsworth, et al). Moose are sometime surveyed in combination with elk surveys. The state is divided into 99 GMUs. GMUs occupied by moose are surveyed in combination with elk or deer surveys, or

surveys specifically for moose when deemed necessary. Data including total numbers, age, and sex will also be collected using cameras. We plan to survey 10 GMUs.

Results

Moose were incidentally counted during the Caribou PMU mule deer survey (GMUs 76, 72, 71) in February 2019. There were 231 total moose observed with a bull:cow:calf ratio of 56:100:30. During other ungulate surveys in the Salmon Region, one moose was observed in GMU 21A.

Remote cameras were deployed for other species statewide. Moose are observed in photos taken by these remote cameras. Data analysis continues to determine if remote cameras can be used to estimate moose densities.

Job 9 Mountain Goat:

Conduct aerial surveys to determine mountain goat herd abundance and age/sex composition data in selected GMUs. Data collected will include total numbers of adults and young. The state is divided into 99 GMUs. GMUs occupied by mountain goats are prioritized and surveyed when deemed necessary. Data to estimate population size and composition will also be collect from ground observation and cameras. We plan to survey 11 GMUs.

Results

Aerial surveys were flown in 12 GMUs to estimate mountain goat herd abundance and age ratios. Approximately 121 hours were flown statewide.

Population surveys were conducted in February 2019 in GMUs 35, 39. We observed 139 mountain goats including 131 adults, 4 yearlings, and 15 kids in GMU 39 and 52 mountain goats (45 adults, 5 kids, 2 yearlings) in GMU 35. In August 2018 GMU's 29, 37A, 51, and 58 (Lemhi Range) were surveyed. A total of 131 mountain goats were observed with 26 kids per 100 adults counted. The Palisades mountain goat population (GMU 67) was surveyed in August 2018. A total of 126 mountain goats were counted, including 109 adults and 17 kids. Survey counts in GMU 61 totaled 57 mountain goats (43 adults and 14 kids). In February 2019, mountain goats were surveyed in GMU 36 (80 total, kid to adult ratio was 24). In GMUs 21, 21A, and 30 a total of 64 mountain goats were observed (kid to adult ratio was 12).

Job 10 Mountain Lion:

Mountain lions will be monitored incidental to camera trap surveys for wolf distribution during this grant period. We will monitor 176-220 unbaited remote cameras deployed in a stratified random sampling framework across the state. Cameras will be set out during June, and data cards retrieved during early fall. We plan to monitor 176-220 remote cameras.

Results

Population monitoring consisted of monitoring trends in harvest demographics (sex and age obtained from tooth cementum analysis) via mandatory checks of all harvested mountain lions.

Mountain lions were monitored incidentally to camera trap surveys for wolf distribution during this grant period. Department personnel deployed a total of 416 unbaited cameras in the field during June 2019. During early fall 2018, data cards were retrieved from cameras deployed during the previous report period. Analysis of mountain lion images obtained from cameras will be in cooperation with our research program grant.

Job 11 Mule Deer:

Conduct sightability counts to determine mule deer herd abundance and age/sex composition data in selected GMUs. Data collected will include total numbers of adult males, yearling males, adult females, and young by location.

Survey methods include aerial and remote camera stations. Aerial surveys follow protocols outlined in the Aerial Survey User's Manual (Unsworth, et al). Helicopters are flown along elevation contour transects 300 - 500 feet apart, at a speed of 40 - 50 mph, at an altitude of 100 – 150 feet AGL. When animals are observed, total number, sex/age composition, screening cover, snow cover, activity (bedded, standing, moving), and GPS location are recorded. Idaho is divided into 99 GMUs. Each GMU is surveyed for every 3 - 8 years. Surveys are only conducted on low elevation big game winter ranges. We plan to survey 60 GMUs by flying an estimated 179 survey hours in helicopters. Additionally, we plan to deploy and/or monitor 220 remote cameras.

Results

During the month of December 2018, helicopter surveys were conducted across 11 Population Management Units (PMUs) to document age/sex composition data. Fawn doe ratios ranged from 53 to 85 fawns per 100 does. Buck doe ratios ranged from 17 to 47 bucks per 100 does.

A mule deer abundance survey was conducted in the Caribou PMU which includes big game management units 66, 66A, 69, 72 and 76 during the month of February 2019. A population estimate of 19,701 mule deer was slightly fewer than the 2013 population estimate of 21,585. In conjunction with the aerial survey, 150 cameras were deployed across mule deer winter range in the Caribou PMU during the month of November 2018 and left in place until April 2019. The over 3 million photos taken during this time period are being analyzed to generate a comparable population estimate, age and sex composition data and buck quality.

Job 12 Peregrine:

Once every 3 years (2018, 2021, etc.), each known eyrie will be visited two or more times to determine occupancy, nest success, and productivity. Surveys will follow protocols recommended by USFWS for post-delisting monitoring of peregrine falcons (USFWS 2013), as follows: Visits to the territory will be timed appropriately for geographic areas. The first visit will occur during late courtship, egg laying, or early incubation to determine occupancy; a second visit will occur during the early nestling stage to determine the age of the nests, or to check the 'unoccupied' status of territories still in question; and a third visit (or more) will be made to occupied territories during the late nestling stage, when young are 28-42 days old to determine nest success and productivity. Even if no evidence of territory occupancy is found in the first four hour visit, a second visit of four hours (ideally 3 to 4 weeks later) is required for the territory to be deemed unoccupied. During all visits, the number and age (adult or subadult) of

peregrines seen in the territory will be recorded, with behavioral or physical evidence of breeding activity if observed. Peregrines sometimes have alternate nest sites within a single territory. If the territory checked does not appear to be occupied, some realistic survey effort will be expended to try and locate potential alternate nest sites within the territory.

Nest monitoring will be done during favorable weather conditions by observers familiar with peregrine nesting behavior. Observers will use binoculars and spotting scopes to make observations, and will avoid flushing incubating peregrines, or monitor during poor weather (e.g. heavy rain, snow, high winds). Observers will minimize any potential stress to the peregrines caused by their presence, and observation posts, in general, will be far enough from the nest so as to not elicit sustained territorial behavior from either adult [150 - 1700 meters is recommended (Pagel 1992)]. Most eyries are on cliffs, and thus, unlikely to be disturbed by observers. Survey dates vary geographically and may occur anytime between March and August. Most surveys will likely occur between April and June.

Survey data will be used to update information on peregrine falcon distribution, abundance and productivity. Results from these surveys will directly impact the number of permits allocated for falconry take for the ensuing 3-year period. We plan to conduct surveys in 5 regions.

Results

The Department conducted a productivity survey of all known peregrine eyries within the state in July 2018. These surveys completed a 3-survey season that began prior to 30 June 2018. Combined, these data directly informed the number of permits allocated for falconry in calendar years 2019 through 2021. During this survey season, 43 eyries were surveyed. Twenty-five were occupied and produced 34 young. As peregrine monitoring occurs every 3rd year, the next survey will take place in 2021.

Job 13 Pronghorn:

Conduct counts to determine herd abundance and age/sex composition data in selected GMUs. Data collected will include total numbers of adult males, adult females, and young. Survey methods include ground observations and cameras. Ground based surveys are conducted using pickup trucks driving predetermined routes. We plan to survey 27 GMUs and monitor 10 remote cameras. See project 3 table for details.

Results

Ground surveys to estimate buck:doe: ratios was conducted in August, 2018 in GMUs 46, 47, and 49. Reported ratios are 43 bucks per 100 does and 20 fawns per 100 does. Ground surveys were also conducted in GMU 44. The observed ratio was 50 bucks per 100 does and 47 fawns per 100 does.

Ground surveys and aerial surveys were conducted in GMU 37, 51, and 30A in July of 2018. Buck:doe:fawn ratios varied between areas. These ratios also varied between survey types within an area. This data is being used in a graduate student research project.

Job 14 Upland Game:

Conduct population status and trend surveys for upland game including sage-grouse/sharp-tailed grouse lek aerial or ground counts/routes, and roadside brood surveys.

Brood routes for upland game birds such as pheasants are conducted along established routes (roads) 15-20 miles in length from July - August. Sage-grouse and sharp-tailed grouse are counted annually on known leks from a distance not disruptive to the birds by aid of binoculars or spotting scopes.

Aerial sage-grouse surveys are conducted using a helicopter flying 0.5 mi contours at a speed of 40 - 60 mph at an altitude of 100 - 200 ft AGL in appropriate habitat (e.g., low elevation sagebrush steppe) during April and May. Surveys are conducted during the first 2 hours of light each morning to maximize detection of males on leks.

Results

To assess greater sage-grouse status and trends, 556 leks were counted on 84 lek routes during this reporting period; an additional 945 leks were counted, but not part of lek routes. Lek counts were conducted in the Southwest, Magic Valley, Southeast, Upper Snake, and Salmon regions.

To assess Columbian sharp-tailed grouse status and trends, 52 leks were counted on 10 lek routes; an additional 146 leks were counted, but not part of lek routes. Lek counts were conducted in the Southwest, Magic Valley, Southeast, and Upper Snake regions.

To assess population status and trend of upland game birds, 40 road-side surveys were conducted in the Clearwater (12), Southwest (20), and Magic Valley (8) regions during this reporting period; 796 miles were surveyed.

Job 15 White-tailed Deer:

Monitor to determine white-tailed deer herd abundance and age/sex composition data in selected GMUs. Data collected will include total numbers of adult males, adult females, and young by location.

Survey methods include aerial and remote camera stations. Aerial surveys follow protocols outlined in the Aerial Survey User's Manual (Unsworth, et al). Helicopters are flown along elevation contour transects 300 - 500 feet apart, at a speed of 40 - 50 mph, at an altitude of 100 - 150 feet AGL. When animals are observed, total number, sex/age composition, screening cover, snow cover, activity (bedded, standing, moving), and GPS location are recorded. The state is divided into 99 GMUs. Each GMU is surveyed for every 3 - 8 years. Surveys are only conducted on low elevation big game winter ranges. We plan to survey 14 GMUs through deployment and/or monitor 300 remote cameras.

Results

Personnel have attempted to collect sightability data on white-tailed deer incidentally while conducting past elk and mule deer surveys. This data was analyzed with the mule deer

sightability model to evaluate if it would provide any useful index to whitetail population status. The results of this effort were not encouraging and the practice has been discontinued.

Approximately three hundred cameras were deployed in GMUs 6 and 15 during November 2018 and picked up during April 2019. Approximately 6 million photos were collected. Data is currently being analyzed to determine a population estimate, buck:doe:fawn ratios and a measure of buck quality.

Project 4 – Estimating Harvest

Need:

The Idaho Department of Fish and Game and the Idaho Fish and Game Commission are charged with the preservation, protection, perpetuation, and management of all wildlife to provide continuous supplies for hunting and other wildlife-based opportunities. Management recommendations and actions, including establishment of appropriate harvest levels, require scientific information on population distribution, status, trend, health status, survival, and cause-specific mortality.

The proposed wildlife harvest surveys provide critical information on hunter harvest, hunter effort, hunter success rates, and other information on hunter behavior. These data enable the Department staff to assess harvest season effectiveness and inform recommendations for future season and bag limit adjustments to maintain populations at levels consistent with management plan objectives.

Purpose:

The purpose of this project is to estimate Idaho's wildlife populations harvest in order to adjust management actions to promote sustainable harvest and maintain populations within management plan objectives.

Measurable Objective(s):

Estimate harvest for 35 species by 30 June 2019

Expected Results and Benefits:

This project will benefit the wildlife resources of Idaho by providing wildlife staff with science-based, quantitative data to ensure sound and responsible management of its various wildlife populations. Activities in this project will estimate harvest numbers, harvest trend, and sex/age composition of wildlife harvested in selected GMUs and an assessment of hunter harvest, hunter participation, morphological parameters, and health data from hunter harvested wildlife.

This project will also provide benefit to recreational hunters. Enhanced management of Idaho's wildlife populations should result in continuous supplies for hunting and other wildlife-based opportunities that meet or exceed the public's expectations. In addition, harvest of quality and mature species should also meet or exceed the public's expectations.

This project will also benefit local economies as hunters are willing to travel considerable distances to enjoy their passions. Local economies will derive benefits from increased sales of gasoline, food, supplies, lodging, and hunting equipment. Society will benefit from a healthy environment and increased outdoor recreation participation.

Approach:

Job 1 Bighorn Sheep:

Determine Rocky Mountain and California bighorn sheep harvest using a mandatory check process. Mandatory checks are used to monitor harvest, age, sex, and method of take. Any hunter harvesting a Rocky Mountain or California bighorn sheep must present the horns and have a big

game mortality report completed and the horns pinned at an Idaho Fish and Game regional office within 10 days of the date of harvest. Estimate harvest for ~95 bighorn sheep by 30 June 2019.

Results

The Department issued 21 California bighorn sheep tags. Sixteen (16) hunters successfully harvested a ram and completed the big game mortality report. Unsuccessful hunters returned their tags or reported by phone to confirm that they did not harvest a bighorn sheep.

The Department issued 74 Rocky Mountain bighorn sheep tags plus the auction and lottery tag hunters also hunted Rocky Mountain bighorns for a total of 76 tags. Fifty (50) hunters harvested a ram and completed the big game mortality report. Unsuccessful hunters returned their tags or reported by phone to confirm that they did not harvest a bighorn sheep.

Job 2 Black Bear:

Conduct mandatory check of harvested black bears statewide to collect sex, age, hunt unit, and method of take information. Any hunter harvesting a black bear must present the carcass and have a big game mortality report completed at an Idaho Fish and Game regional office within 10 days of the date of harvest. Estimate harvest for ~2,100 black bear by 30 June 2019.

Results

The number of bears checked (2,625) was above the rough average number estimated to be checked (~2,100). The number of completed harvest mortality reports received is expected to vary from year to year given changes in harvest under a general hunting season framework. It is not atypical for additional reports completed for harvest during this reporting period to be submitted late, so the final number of reports received will likely increase modestly.

A mandatory check program was conducted statewide during the report period. A total of 1,249 bears (48%) were checked by Department personnel, with an additional 1,376 bears (52%) checked at one of 52 contracted private checkpoint vendors. A variety of harvest-related information was collected from these 2,625 bear including hunter information, hunt area, method of take, bear sex and age, and other characteristics. Teeth were collected from 2,091 harvested bears (98%) for use in age determination.

Job 3 Elk:

Determine elk harvest and hunter participation using a harvest report card followed by a telephone survey to address non-response. Idaho Fish and Game uses a mandatory harvest reporting system and a follow up telephone survey to determine tag holder participation and harvest. Hunters submit their reports by internet website, mail, or telephone for all big game species throughout the fall and winter. All hunters are required to file a report regardless of whether they harvested or not. Hunters report the number of days hunted, by weapon and GMU, whether they harvested an animal, and if so, the date, GMU, weapon used, sex, and antler points. Telephone surveys of non-responders are conducted in December and January during the fiscal year. Check stations will be used in selected management units to assess harvest information, collect morphological measurements, and obtain biological samples for health assessments of hunter harvested elk.

Results

During the 2018 hunting season 109,626 hunters pursued elk across the state of Idaho. Hunters took 22,326 elk of which 11,328 were antlered and 10,998 antlerless. Of the antlered animals taken, 44% had at least 6 points on one side.

Regional staff operated 18 check stations with a total of 64 check station days. Staff collected harvest data from 13,074 hunters and morphological measurements from 280 elk.

Job 4 Furbearers:

Conduct a mandatory check for all bobcat and river otter harvested statewide. Conduct a mandatory harvest report card for all trappers to monitor harvest of furbearers statewide.

Results

One hundred twenty-two otters were harvested in the 7 regions of Idaho with a total statewide quota of 155. Quotas were met in 3 of the 7 regions. Location, sex, and date of harvest was collected by staff and a CITES tag was affixed to each harvested animal. 1,256 bobcats were harvested in the seven regions of Idaho. Location, sex, date, and method of harvest was recorded by staff and a CITES tag was affixed to each harvested animal. At the time of reporting a total of 939 fur-taker report cards were submitted of the 1,493 trappers who purchased a trapping license. Since reporting is necessary to purchase a license for the upcoming season, we expect this number to increase. Data are used to calculate catch per unit effort for 13 species of furbearer and one species of big game (wolf). Additionally, any person reporting trapping beaver was sent an additional form requesting the number of animals harvested per GMU and what watershed within the GMU. This information is being used to better understand where beaver trapping pressure exists in relation to efforts of using beaver as a restoration tool.

Job 5 Gray Wolf:

Conduct mandatory check of harvested wolves statewide to collect sex, age, hunt unit, and method of take information. Any hunter harvesting a wolf must present the carcass and have a big game mortality report completed at an Idaho Fish and Game regional office within 10 days of the date of harvest. Estimate harvest of ~150 – 300 wolves by 30 June 2019.

Results

The number of harvested wolves checked (381) was greater than the number estimated to be checked (150-300). Forms were completed for 185 wolves taken by hunting and 125 wolves taken by trapping. Harvest increased in this report period compared to prior report periods, and was 81 wolves below the expected value.

A mandatory check program was conducted statewide during the report period. A total of 318 harvested wolves were checked by Department personnel, with an additional 6 wolves checked at one of 6 contracted private checkpoint vendors. A variety of harvest-related information was collected from these wolves including hunter information, information on hunt characteristics, and wolf sex and age information. Teeth were collected from 320 harvested wolves (84%) for age determination. DNA samples were collected from 223 harvested wolves (59%). In addition, a BGMR form was completed for 70 wolves that were not harvested but for which we obtained

kill information. Mortality information from non-harvested wolves is valuable in assessing population dynamics and factors influencing population status.

Job 6 Grizzly Bear:

Conduct mandatory check of harvested grizzly bear in Region 6 to collect sex, age, hunt unit, and method of take information. Any hunter that harvests a grizzly bear must present the skull and hide (with evidence of sex attached) and have a Big Game Morality Report completed at the Department regional office in Idaho Falls within 10 days of the date of harvest. Estimated harvest of 1 grizzly bear by 30 June 2019.

Results

In September 2018, a federal judge reinstated grizzly bears of the Greater Yellowstone Area to the Endangered Species Act list. As a result no hunt for grizzly bears occurred.

Job 7 Migratory Birds:

Estimate the number of ducks, Canada geese, light-geese, and white-fronted geese harvested using the FWS Harvest Information Program, mailed questionnaires and random surveys of license buyers.

Results

The Department conducted surveys of tag holders to estimate harvest of sandhill cranes (235) in the Southeast and Upper Snake regions. Surveys were also conducted to estimate the number of Canada geese harvested (520) during early Canada goose seasons in the Southeast Region.

The Harvest Information Program reported an estimated 260,300 ducks and 42,000 Canada geese were harvested in Idaho during the 2018-2019 season.

Job 8 Moose:

Determine harvest of moose using a mandatory check process. Mandatory checks are used to monitor harvest, age, sex, and method of take. Any hunter harvesting a moose must present the moose antlers and have a big game mortality report completed at an Idaho Fish and Game regional office or other designated location within 10 days of the date of harvest. Estimate harvest for ~670 moose by 30 June 2019.

Results

During 2018 hunting season, 809 moose hunters reported the harvest of 599 moose. This included 498 males and 101 females. These totals include Super Hunt tags. Unsuccessful hunters returned their tags or reported by phone to confirm that they did not harvest a moose.

Job 9 Mountain Goat:

Determine harvest of moose using a mandatory check process. Mandatory checks are used to monitor harvest, age, sex, and method of take. Any hunter harvesting a mountain goat must present the horns and have a big game mortality report completed at an Idaho Fish and Game

regional office or other designated location within 10 days of the date of harvest. Estimate harvest for ~50 mountain goats by 30 June 2019.

Results

During 2018 hunting season, 48 mountain goat hunters reported the harvest of 37 mountain goats. The total includes 28 males and 9 females. Unsuccessful hunters returned their tags or reported by phone to confirm that they did not harvest a mountain goat.

Job 10 Mountain Lion:

Conduct mandatory check of harvested mountain lions statewide to collect sex, age, hunt unit, and method of take information. Any hunter harvesting a mountain lion must present the carcass and have a big game mortality report completed at an Idaho Fish and Game regional office within 10 days of the date of harvest. Estimate harvest for ~700 mountain lions by 30 June 2019.

Results

The number of mountain lions checked (656) was slightly less than the anticipated target number to be checked (700). Harvest seasons were not changed substantially during the report period, and mountain lion tag sales (reflective of effort) did not change appreciably.

A total of 364 harvested mountain lions (55%) were checked by Department personnel, with an additional 292 lions (44%) checked at one of 39 private checkpoint vendors. A variety of harvest-related information was collected from these 656 lions including hunter information, information on hunt characteristics, and bear sex and age information. Teeth were collected from 628 harvested lions (96%). DNA samples were collected from 102 harvested lions (16%) during this report period. In addition, a BGMR form was completed for 45 lions that were not harvested. Mortality information from these nonharvested lions are valuable for monitoring population status and key factors of annual mortality.

Job 11 Mule Deer:

Determine mule deer harvest and hunter participation using a harvest report card followed by a telephone survey to address non-response. Idaho Fish and Game uses a mandatory harvest reporting system and a follow up telephone survey to determine tag holder participation and harvest. Hunters submit their reports by internet website, mail, or telephone for all big game species throughout the fall and winter. All hunters are required to file a report regardless of whether they harvested or not. Hunters report the number of days hunted, by weapon and GMU, whether they harvested an animal, and if so, the date, GMU, weapon used, sex, and antler points. Telephone surveys of non-responders are conducted in December and January of the fiscal year. Check stations will be used in selected management units to assess harvest information, collect morphological measurements, and obtain biological samples for health assessments of hunter harvested mule deer. The Department staff will be collecting lymph nodes and brain stem material from harvested, salvaged, or radio-marked deer or suspected deer to assess for chronic wasting disease (CWD).

Results

During the 2018 hunting season 95,489 hunters pursued mule deer across the state of Idaho. Hunters spent 488,511 days in the field taking 26,973 mule deer of which 21,467 were antlered and 5,506 antlerless. Of the antlered animals taken 46% had at least 4 points on one side.

Regional staff operated 18 check stations with a total of 64 check station days. Staff collected harvest data from 13,074 hunters and morphological measurements and biological samples from 1,506 mule deer. CWD samples were taken from 709 mule deer with all samples testing negative.

Job 12 Pronghorn:

Determine pronghorn harvest using a harvest report card followed up by a telephone survey to address non-response. Idaho Fish and Game uses a mandatory harvest reporting system and a follow up telephone survey to determine tag holder participation and harvest. Hunters submit their reports by internet website, mail, or telephone for all big game species throughout the fall and winter. All hunters are required to file a report regardless of whether they harvested or not. Hunters report the number of days hunted, by weapon and GMU, whether they harvested an animal, and if so, the date, GMU, weapon used, sex, and horn length. Telephone surveys of non-responders are conducted in December and January of the fiscal year. Check stations will be used in selected management units to assess harvest information, collect morphological measurements, and obtain biological samples for health assessments of hunter harvest. Estimate harvest for ~1,800 pronghorn by 30 June 2019.

Results

An estimated 6,235 (includes unlimited tags) controlled hunt tag holders hunted pronghorn and harvested 1,960 pronghorn in 17,161 days of hunting during the 2018 season. Harvest was reported by internet website, mail, and telephone. No check stations were run specifically for pronghorn.

Average statewide horn measurements were 10.5 inches in the any weapon hunts and 10.4 inches in the archery hunts.

Job 13 Upland Game:

Conduct harvest surveys and operate upland game bird check stations. Record hunters, days/hours, and birds harvested. Collect other data to monitor production, and distribute wing barrels in areas of high hunter pressure to increase data collections of upland bird wings from these areas. Distribute wing envelopes to hunter to increase data collection of sage- and sharp-tailed grouse wings. Conduct harvest surveys for turkeys to estimate hunters, days, and birds harvested.

Results

To obtain an index to annual production, wing barrels were deployed in several regions of the state. There were 11 wing barrels at the Craig Mountain WMA in the Clearwater Region, five barrels in the McCall subregion, 32 barrels in the Nampa Region, 16 barrels in the Magic Valley Region, 19 barrels in the Southeast Region, 8 barrels in the Upper Snake Region, and 8 barrels in

the Salmon Region. The most common species in wing barrels are forest grouse, sage-grouse, and Columbian sharp-tailed grouse.

Nearly 2,900 wing envelopes were distributed to hunters to increase data collection of sage- and Columbian sharp-tailed grouse wings for the 2018 hunting season.

Over 8,600 surveys were sent to hunters to estimate upland game harvest and hunter activity. Another 8,200 surveys were sent to turkey hunters to estimate harvest and hunter activity.

Job 14 White-tailed Deer:

Determine white-tailed deer harvest using a harvest report followed by a telephone survey to address non-response. Idaho Fish and Game uses a mandatory harvest reporting system and a follow up telephone survey to determine tag holder participation and harvest. Hunters submit their reports by internet website, mail, or telephone for all big game species throughout the fall and winter. All hunters are required to file a report regardless of whether they harvested or not. Hunters report the number of days hunted, by weapon and GMU, whether they harvested an animal, and if so, the date, GMU, weapon used, sex, and antler points. Telephone surveys of non-responders are conducted in December and January of the fiscal year. Check stations will be used in selected management units to assess harvest information, collect morphological measurements, and obtain biological samples for health assessments of hunter harvested white-tailed deer. The Department staff will be collecting lymph nodes and brain stem material from harvested, salvaged, or radio-marked deer or suspected deer to assess for chronic wasting disease (CWD).

Results

Statewide, a total of 58,520 hunters took 25,132 white-tailed deer for a 43% hunter success rate during the 2018 hunting season. Of the 25,132 deer taken, 15,164 were antlered animals of which 20% had 5 points on at least one side.

The regions ran 18 check stations for 64 days checking 13,074 hunters and 345 white-tailed deer to assess harvest information, collect morphological measurements.

Project 5 – Species Reintroduction and Stocking

Need:

The Idaho Department of Fish and Game and the Idaho Fish and Game Commission are charged with the preservation, protection, perpetuation, and management of all wildlife to provide continuous supplies for hunting and other wildlife-based opportunities. Management recommendations and actions, including establishment of appropriate harvest levels, require scientific information on population distribution, status, trend, health status, survival, and cause-specific mortality.

The proposed wildlife reintroduction and stocking of beavers and turkeys provide multiple benefits, including resolution of conflicts and habitat damage on one location and then ultimately benefits through habitat improvement or hunter harvest opportunity in the area to which they were translocated.

Purpose:

The purpose of this project is to resolve localized wildlife conflict by capturing and then translocating wildlife to other locations where they confer a benefit through hunting opportunity and/or habitat improvement.

Measurable Objective(s):

Reintroduce and/or stock 3species by 30 June 2019

Expected Results and Benefits:

This project will resolve local conflicts and also provide a benefit to hunters and/or trappers. Enhanced management of Idaho's wildlife populations will result in continuous supplies for hunting and other wildlife-based opportunities that meet or exceed the public's expectations.

This project will also benefit local economies as hunters and trappers are willing to travel considerable distances to enjoy their passions. Local economies will derive benefits from increased sales of gasoline, food, supplies, lodging, and hunting equipment. Society will benefit from a healthy environment and increased outdoor recreation participation.

Approach:

Job 1 Moose:

Augment moose populations in selected GMUs through incidental capture of moose occupying urban settings. Moose will be captured via ground or aerial immobilization.

Results

Moose occasionally occupy urban settings and if they are deemed a nuisance or threat to public safety they are captured and moved to areas outside of town. In the Panhandle Region, one moose was captured and translocated. Three moose were captured in urban areas and relocated in the Magic Valley Region during this reporting period. Twelve (12) moose were captured and moved to more remote areas in the Southeast Region. In the Upper Snake Region, 16 moose were moved from urban areas to more remote areas in the region. Twenty (1 in the Magic

Valley, 9 in the Southeast, and 10 in the Upper Snake) of the translocated moose were radio-marked to monitor their movements and survival post translocation.

Job 2 Upland Game:

Translocate upland game birds to augment existing populations, re-establish historic populations, establish new populations, or address nuisance/depredation issues. Capture methods include baited walk-in traps and rocket nets. The Department plans to trap and translocate 100 turkeys.

Results

To augment existing populations, staff trapped and translocated within the Southwest Region. Eight turkeys were trapped and released within the Clearwater Region. Sixty-five birds were trapped in the Southeast Region and then translocated, to the Salmon Region to augment existing populations.

Job 3 Furbearer:

Beaver will opportunistically be translocated from problem areas (areas of conflict with private property and/or infrastructure) to streams that have been identified as sites suitable for beaver, but none are currently present. These translocation sites will be prioritized based on riparian habitat restoration needs.

Results

No beaver reintroduction and stocking was conducted in the Salmon Region this year. Reintroductions are reported and described above in Project 2, Job 4.

Project 6 – Technical Assistance

Need:

The Idaho Department of Fish and Game and the Idaho Fish and Game Commission are charged with the preservation, protection, perpetuation, and management of all wildlife to provide continuous supplies for hunting and other wildlife-based opportunities. Management recommendations and actions, including establishment of appropriate harvest levels, require scientific information on population distribution, status, trend, health status, survival, and cause-specific mortality.

The proposed wildlife technical assistance will ensure the interests of wildlife species are taken into consideration during management actions conducted by private or other governmental entities. Such assistance will help ensure the Department meets its obligation to preserve, protect, perpetuate, and manage wildlife.

Purpose:

The purpose of this project is to provide data and recommendations on 10 projects to promote sustainable populations.

Measurable Objective:

Consult with 10 entities by 30 June 2019

Expected Results and Benefits:

This project will benefit the wildlife resources of Idaho by providing wildlife staff with science-based, quantitative data to ensure sound and responsible management of its various wildlife populations. Staff will provide timely and science-based information regarding wildlife and wildlife habitat through technical assistance, resulting in minimized negative impacts and maximized positive impacts to wildlife and wildlife habitat.

This project will also provide benefit to recreational hunters. Enhanced management of Idaho's wildlife populations should result in continuous supplies for hunting and other wildlife-based opportunities that meet or exceed the public's expectations.

Approach:

Provide timely and science-based technical assistance on wildlife and wildlife habitat. Technical advice and information on Department management programs and policies will be provided to the public and personnel of the U.S. Fish and Wildlife Service, Bureau of Reclamation, Bureau of Land Management, U.S. Forest Service, Natural Resource Conservation Service, Farm Services Agency, Soil and Water Conservation Districts, Idaho Department of Water Resources, Idaho Parks and Recreation, Idaho Department of Lands, Idaho State Department of Agriculture, British Columbia Ministry of Environment, and other groups by telephone, letter, person-to-person, and through participation in inter-agency technical and advisory committees.

Results

The Department provided technical assistance to multiple private and governmental organizations during this reporting period. This includes sharing data, technical advice, and

information on Department policies and programs. Technical assistance was provided to the following:

- Participating in the Hells Canyon Bighorn Sheep Initiative committee. Members of this group include IDFG, Oregon Department of Fish and Wildlife (ODFW), Washington Department of Fish and Wildlife (WDFW), US Forest Service, Bureau of Land Management, Wild Sheep Foundation - National and Idaho, Washington, and Oregon chapters. Other participants at the meetings included the Nez Perce Tribe, Confederated Tribes of the Umatilla, Washington State University (WSU), and the Asotin Conservation District.
- Participating in the Western Association of Fish and Wildlife Agencies (WAFWA) Wild Sheep Working Group (WSWG). Membership in the WSWG includes all western states and provinces that are members of WAFWA (n = 24). Meetings are also attended by the Forest Service, Bureau of Land Management, and multiple chapters of the Wild Sheep Foundation.
- Providing a state representative and 2 presentations at the WAFWA Pronghorn Workshop.
- Providing a state representative at the North American Moose Workshop.
- Providing information and interview to Idaho Public Television for a mountain goat television/internet production.
- Providing bighorn sheep data to Western Watershed's Project.
- Providing a state representative and 2 presentations at the WAFWA Pronghorn Workshop.
- Providing assistance to multiple hunters requesting harvest data on pronghorn.
- Sharing data with Oregon Department of Fish and Wildlife (ODFW) and Nevada Division of Wildlife (NDOW) on cross border movements of pronghorn.

Provided assistance to dozens of hunters requesting harvest data on bighorn sheep, moose, and mountain goats.

Furbearer

The southwest region provided technical assistance to the Emmet Ranger District of the USFS regarding to beaver translocations for watersheds within their district. Additionally, HQ staff provided technical assistance to the Council Ranger District of the USFS in the form of a site visit for beaver mediated habitat restoration. The sites on the Emmet Ranger District was determined to be unsuitable for beaver without stream restoration efforts ahead of any translocation efforts. At the Council sites, it was determined that the area is suitable for beaver mimicry in an effort to encourage natural colonization by beavers.

Black Bears:

The Department works closely with the USDA Forest Service in patrolling campgrounds, looking for improperly stored attractants, and providing education materials to campers to try to reduce conflicts through outreach and education efforts and securing attractants on public and private land. Department regional staff in the Southwest region collaborate closely with the City of McCall to implement bear-proof trash containers for local residents and businesses throughout the valley.

Wolves:

The Department has provided recommendations to the USDA Forest Service in managing livestock grazing allotments and sheep bands near to active wolf dens and rendezvous sites, and consults continually throughout the year with USDA Wildlife Services regarding resolving wolf depredations on livestock and impacts to ungulate populations.

Grizzly Bear:

The Department works closely with the Forest Service in patrolling campgrounds, looking for improperly stored attractants, and providing education materials to campers to try to reduce conflicts through outreach and education efforts and securing attractants on public and private land.

The Department participates as a member of the Interagency Grizzly Bear Study Team, which is responsible for long-term monitoring and research efforts on grizzly bears in the Greater Yellowstone Ecosystem (GYE).

Capital Outlay Purchases

10 flight helmets

Name, title, phone number, and e-mail address of person compiling this report:

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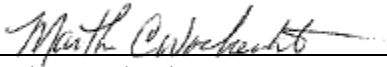
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Submitted by: IDAHO DEPARTMENT OF FISH AND GAME

Approved by:



Martha Wackenhut

Federal Aid Coordinator



Toby Boudreau, Chief

Bureau of Wildlife

FEDERAL AID IN WILDLIFE RESTORATION

The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sale of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. The Idaho Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit.

These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be responsible, ethical hunters. Seventy-five percent of the funds for this project are from Federal Aid. The other 25% comes from license-generated funds.

