

# Nevada Department of Wildlife's Modified Proposals

## **1. SAGE GROUSE ENHANCEMENT PROJECT: AREAS 14 AND 15**

<b>Heritage Proposal number:</b>	10-27
<b>Original proponent:</b>	Nevada Alliance 4 Wildlife (Pat Laughlin)
<b>Proposed project inception:</b>	2010
<b>Total Heritage Trust Fund requested:</b>	\$250,000 for 5 years
<b>Total Heritage Trust Fund approved:</b>	\$50,000 (Fiscal Year 2010)

This proposed project was developed by the Game Division based on input from area Field Biologists and the basic criteria presented to the Department of Wildlife (NDOW) from Heritage Proposal 10-27 submitted by the Nevada Alliance 4 Wildlife. The original Heritage Proposals are provided in the support material package for reference.

## **2. MULE DEER ENHANCEMENT PROJECT: AREA 15**

<b>Heritage Proposal numbers:</b>	10-26 + 10-23
<b>Original proponents:</b>	Nevada Alliance 4 Wildlife (Pat Laughlin) + Hunter's Alert Inc. (Cecil Fredi)
<b>Proposed project inception:</b>	2009 (July 1, 2009)
<b>Total Heritage Trust Fund requested:</b>	\$566,000 for 5 years + \$50,000
<b>Total Heritage Trust Fund approved:</b>	\$112,000 (Fiscal Year 2010) + \$50,000 (FY 2010)

This proposed project was developed by the Game Division based on input from area Field Biologists and the basic criteria contained within Heritage Proposal 10-26 and 10-23 submitted by the Nevada Alliance 4 Wildlife and Hunter's Alert Incorporated. The original Heritage Proposals are provided in the support material package for reference.

## **1. SAGE GROUSE ENHANCEMENT PROJECT: AREAS 14 AND 15**

**Heritage Proposal number:** 10-27  
**Original proponent:** Nevada Alliance 4 Wildlife (Pat Laughlin)  
**Proposed project inception:** 2010  
**Total Heritage Trust Fund requested:** \$250,000 for 5 years  
**Total Heritage Trust Fund approved:** \$50,000 (Fiscal Year 2010)

**Project Description:** A predation management project is proposed for the enhancement of sage grouse nesting success, recruitment and survival in Management Areas 14 and 15 in central Nevada. Two identified sage grouse predator species (raven and badger) will be targeted for lethal control where they occur relative to specific sage grouse lek areas in Unit 143 (Roberts Mountains) and Unit 155 (Simpson Park Mountains) during the spring period of active nesting behavior. Lek sites within the 3-Bar complex (3-Bar PMU) identified for predator control include the 3-Bar and Ferguson Ranch leks. Predation management activities will be performed by contracted personnel (USDA APHIS – Wildlife Services) using currently approved techniques, under the direction of and in cooperation with, the Nevada Department of Wildlife.

**Project Area:** Areas 143 & 155 (Lander and Eureka Counties, Central Nevada)

**Targeted Species:** Raven and Badger

**Control Period:** March 1, 2010 - June 30, 2010

### **Projected Expenditures:**

<b>Category</b>	<b>Estimated expenditure</b>
APHIS-Wildlife Services	22,135.00
Monitoring (UNR)	27,865.00
<b>Total</b>	<b>50,000.00</b>

**Control Effort and Techniques:** Control efforts will target predatory ravens and badgers during sage grouse spring nesting activity (March 1<sup>st</sup> through June 30<sup>th</sup> 2010) in and around designated leks located within Units 143 and 155 in an attempt to promote sage grouse survival, nesting success and recruitment. Methods of take may include distribution of chicken eggs treated with DRC-1339 (raven), leg-hold traps, and shooting (badger). Lethal control of raven may only be performed under permit from the US Fish and Wildlife Service; the permittee is legally required to abide by the conditions of the permit.

**Monitoring:** The University of Nevada (Reno) will be contracted to institute a monitoring program specific to the treatment area. This effort will complement ongoing raven predation

studies in the area currently being performed by UNR. Research crews associated with the UNR Falcon to Gonder Transmission Line Study will monitor male attendance at lek sites, capture and radio mark female sage-grouse, determine nest initiation rates, nest success or failure, and survival.

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<b>Original proponents:</b>	Nevada Alliance 4 Wildlife (Pat Laughlin) + Hunter's Alert Inc. (Cecil Fredi)
<b>Proposed project inception:</b>	2009 (July 1, 2009)
<b>Total Heritage Trust Fund requested:</b>	\$566,000 for 5 years + \$50,000
<b>Total Heritage Trust Fund approved:</b>	\$112,000 (Fiscal Year 2010) + \$50,000 (FY 2010)

**Project Description:** A predation management project for the enhancement of mule deer fawn survival and recruitment in Management Area 15 in central Nevada is proposed. Two identified mule deer predator species (coyote and mountain lion) are to be targeted for lethal control where they occur relative to a non-migratory mule deer herd in Unit 155 (Simpson Park Mountains). This particular herd is recommended by NDOW biologists and most closely fits recommendations by Warren B. Ballard et al ("Deer-predator relationships: a review of recent North American studies with emphasis on mule and black-tailed deer") for prospectively selecting study areas where predation management is most likely to provide positive results. Unit 155 meets the criteria for selection of a suitable study site (< 259 mi<sup>2</sup>, excellent road access, below functional carrying capacity) and NDOW biologists consider predation one of the possible limiting factors affecting this relatively small deer herd.

Predation management activities will be performed by contracted personnel (USDA APHIS – WS) using currently approved techniques, under the direction of and in cooperation with, the Nevada Department of Wildlife.

<b>Project Area:</b>	Unit 155 (Lander and Eureka Counties, Central Nevada)
<b>Targeted Species:</b>	Coyote and Mountain Lion
<b>Control Period:</b>	July 1, 2009 – March 2011 ( <i>Note: this will require Commission approval of project extension request into following fiscal year so that fawn cohort can be adequately followed and monitored through second spring</i> )

### Projected Expenditures:

Category	Estimated expenditure
APHIS – Wildlife Services	113,500.00
Aerial survey (NDOW)	8,500.00
Satellite collars/body condition/monitoring (NDOW)	40,000.00
<b>Total</b>	<b>162,000.00</b>

**Control Effort and Techniques:** Intensive control efforts will target coyote and mountain lion in Unit 155 in an attempt to promote mule deer population success by improving fawn survival and recruitment. Control methods may involve aerial hunting, houndsmen, snares, and leg-hold traps, call boxes, denning, calling and shooting.

**Monitoring:** NDOW personnel will place 10 (refurbished) satellite collars on adult does, evaluate body condition, pregnancy status and fetal rates, and other health parameters through physical examination and ultrasound evaluation of live animals and will examine hunter-harvested deer where feasible. A seasonal field technician will be contracted to assist in gathering and collating data and to provide additional field observation. Extension of project duration into FY 2011 will be requested to allow a full year evaluation of results as they pertain to the fawn cohort under study.

Comprehensive, pre- and post-treatment monitoring will not be feasible for this one-year project; however it is anticipated that general success of the program will be measurable through determination of fawn: adult ratios calculated following intensive, replicated, fall and spring aerial surveys (to be performed by the Nevada Department of Wildlife, Air Operations and Game Division personnel). Adjacent Units will be surveyed to provide data for comparison.

USDA APHIS-WS will monitor coyote and lion populations in the area prior to, during and following the periods when intensive predation management activities are applied.

**Reference:** Warren B. Ballard; Daryl Lutz; Thomas W. Keegan; Len H. Carpenter; James C. deVos, Jr., 2001. Deer-Predator Relationships: A Review of Recent North American Studies with Emphasis on Mule and Black-Tailed Deer. *Wildlife Society Bulletin*, Vol. 29, No. 1. (Spring, 2001)

**Justification:** As previously noted, Area 15 was chosen as a potential deer resource that had the most potential to benefit from predator control based on several criteria outlined in a publication by Ballard et al ("*Deer-predator relationships: a review of recent North American studies with emphasis on mule and black-tailed deer*") for prospectively selecting project areas where predation management is most likely to provide positive results. Specifically, Unit 155 was identified for predator management was because it fit the criteria of being of manageable size (less than 259 mi<sup>2</sup>), there is excellent road access including roads to the top of the range which will allow for effective predator management actions, and the deer population is believed to be below carrying capacity thereby making predation one of the possible limiting factors affecting this relatively small deer herd. Deer data collected this past year support this supposition. Area 15 exhibited the highest fall fawn ratio in the state (58 fawns/100 adults). This is often indicative of a deer herd that is below carrying capacity because lower deer densities allow individual animals to be in better body condition and they are more productive. This is also the most beneficial time to conduct predator control because the habitat is capable of supporting a population increase if the predator management project is successful.

Further analysis of the Area 15 deer data for 2008-09 show, that although it had the highest fall fawn ratio, the spring ratio was reduced to 32 fawns/100 adults by overwinter mortality factors. Of 26 Deer Management Areas (unit groups) where spring fawn ratios were measured, 3 also had 32 fawns/100 adults but 10 had higher spring fawn ratios. It was apparent that above average mortality occurred bringing that spring fawn ratio down to that level.

Even more interesting looking at the Area 15 data by unit the following fawn recruitment was observed: Unit 151 - 37 fawns/100 adults, Unit 152 - 33 fawns/100 adults, Unit 154 - 29 and Unit 155 – 26 fawns/100 adults. Both the proposed control unit (154) and the proposed treatment unit (155) had lower fawn recruitment than the other units in Area 15 suggesting predator losses may be an important factor especially in those two units. It is anticipated that effective predator management activities can be conducted that will meet criteria described for successful predator control projects in the Ballard et al paper. Hopefully the result will be that Unit 155 will show a significant difference in spring fawn ratios next year in comparison to adjacent units especially 154.

Area 6's attributes for consideration as a study area are the converse of Area 15's.