

# 2022 MDEP Project Proposals

## Mule Deer Investigation Projects

Project Name	Project Type	Project Description	Subcommittee	Unit Group	Amount Requested?	Score	Regional Priority	Statewide Priority	Comments
Mgt. Area 1 Mule Deer Collaring	Capture	Mortality/Habitat Use Invest.	Washoe	011-015	\$0	74.8	WR1	6	NGO's and NDOW budget will be used for this project
Area 8 Tooth Collection & Age Analysis	Harvest Study	Tooth Age Analysis	Elko Area 7, 8, 9	081	\$3,000	32.6	ER5	5	Elko NBU commitment
Mgt. Area 12 Mule Deer Collaring	Capture	Mortality/Habitat Use Invest.	White Pine	MA 12	\$96,000	74.3	ER1	2	
Mgt. Area 13 Mule Deer Collaring	Capture	Mortality/Habitat Use Invest.	Area 13	MA 13	\$100,000	65	ER2	3	Modified \$\$ amount from original proposal
Mgt. Area 22 Mule Deer Collaring	Capture	Mortality/Habitat Use Invest.	Lincoln	221-223	\$78,080	65	SR2	1	(Modified) \$80K donations from NGO's committed.
Spring Mtn Camera Project	Investigation	Trail Camera Study	Clark	MA 26, 27, & 28	\$8,000	69	SR1	4	

**\$285,080** Requested from NDOW P/R funds for FY 2024

## Habitat Projects

Project Name	Project Type	Project Description	Subcommittee	Unit Group	Amount Requested?	Score	Regional Priority	Statewide Priority	Potential Fund Source
Wildcat Fire Bitterbrush Planting	Restoration/Rehab.	Planting	Elko Area 7, 8, 9	071-079, 091	\$117,000	85.4	ER1	1	Heritage, NDOW Fire Rehab funds, FS, SO3362, NGO
Corta Fire Seedling Planting Phase II	Restoration/Rehab.	Planting	Elko Area 10	102-103	\$75,000	74.4	ER2	2	Heritage, W-24 Restoration Grant?
Izzenhood WMA Winter Range Habitat Restoration	Restoration/Rehab.	Herbicide and Planting	Elko Area 6	068	\$125,000	66	ER3	3	Heritage, WSFR Grant?
Granite Range Overspray Projects	Restoration/Rehab.	Herbicide and Seeding	Washoe	014	\$200,000	67.4	WR1	4	Heritage, W-24 Restoration Grant?, BLM AA?
Spring Protection	Water Dev./Spring Protection	Spring Protection	Nye-Esmeralda	MA 17, 21	N/A	66	SR1	5	Heritage, Water Dev. Grant, BLMAA?
Current to Upper Perish Habitat Enhancement:	Restoration/Rehab.	PJ Removal	Area 13	MA 13	\$250,000	70.3	ER4	6	Heritage, BLM AA?
Bald Mtn Pinyon-Juniper Thinning	Restoration/Rehab.	PJ Removal	Lander	151-156	\$425,000	66.3	ER5	7	Heritage, BLM AA?
Spring Restoration in Clark County	Water Dev./Spring Protection	Spring Protection	Clark	MA 26, 27, & 28	\$100,000	72	SR2	8	Heritage, Water Dev. Grant, BLMAA?
Granite Range Water Dev.s	Water Dev./Spring Protection	Guzzler	Washoe	014	\$43,000	68.8	WR2	9	Water Dev. Grant, volunteers
Milk Ranch Guzzler	Water Dev./Spring Protection	Guzzler	Lincoln	222	\$45,000	69	SR3	10	Heritage, Water Dev. Grant, BLMAA?
Fire Creek Cheatgrass Treatment	Restoration/Rehab.	Herbicide and seeding	Lander	151-156	\$390,000	54.3	ER6	11	Heritage, W-24 Restoration Grant??, BLM AA?
Vinini and Henderson Creek PJ Removal	Restoration/Rehab.	PJ Removal	Area 14	MA 14	\$150,000	69	ER7	12	Heritage, Eureka CD, NRCS, BLM AA?
Private Land Snowstorm and Imm. Kochia Seeding	Restoration/Rehab.	Seeding	Elko Area 6	065	\$71,000	63.8	ER8	13	Heritage
Robert's Creek Corridor Pinyon-Juniper Removal	Restoration/Rehab.	PJ Removal	Area 14	MA 14	\$150,000	71	ER9	14	Heritage, Eureka CD, NRCS, BLM AA?
Area 7 Fence Removal in Migration Corridor	Fence	Fence Removal	Elko Area 7, 8, 9	071-079, 091	\$25,000	66.1	ER10	15	RMEF Volunteers
Toe Jam Mule Deer Corridor Fence Modification	Fence	Fence Modification	Elko Area 6	067	\$144,500	66.4	ER11	16	Heritage
Queen Spring Pinyon-Juniper Hand Thinning	Restoration/Rehab.	PJ Removal	White Pine	111-113	\$130,000	64.6	ER12	17	Heritage
East Whistler Mtn Pinyon-Juniper Removal	Restoration/Rehab.	PJ Removal/Spring Enhancement	Area 14	MA 14	\$80,000	71	ER13	18	Heritage, Eureka CD, NRCS, BLM AA?
Elephant Head Aspen Exclosure Repair	Fence Or Spring Protection?	Spring Protection	Lander	151-156	\$231,250	52	ER14	19	Heritage, BLM AA?
Northern Golden Gate Range Guzzler Series	Water Dev./Spring Protection	Guzzler	Area 13	MA 13	\$120,000	64.8	ER15	20	Water Dev. Grant, volunteers
Spring Mtns Mullein Removal	Restoration/Rehab.	Invasive Species Removal	Clark	MA 26, 27, & 28	\$25,000	48	SR4	21	Heritage, HCF, BLMAA?
Little Fish Lake Valley Pinyon-Juniper Treatment	Restoration/Rehab.	PJ Removal	Nye-Esmeralda	162-163	\$150,000	65.4	SR5	22	Heritage, BLM AA?

**\$3,046,750**

\$2,126,750

40% line

**Habitat Investigation Projects on Hold**

Project Name	Project Type	Project Description	Subcommittee	Unit Group	Fiscal Year 2023 Amount Requested?	Score	Regional Priority	Statewide Priority	Potential Fund Source
Wild Horse Impacts on Mule Deer	Investigation		White Pine	MA 11 / 12	N/A	78.9	ER 4		
Triple B HMA Remote Sensing	Investigation		Elko Area 10	101-109	\$191,000	69.4	ER 3		BLM WH&B Proposal?

**Predator Projects**

Project Name	Project Type	Project Description	Subcommittee	Unit Group	Fiscal Year 2023 Amount Requested?	Score	Regional Priority	Statewide Priority	Potential Fund Source
Coyote Removal During Fawning Period	Project 38	Coyote Removal	Pershing	043-046	\$40,000	N/A	WR 3		\$3 Predator Fee
Antelope Range Mtn Lion Removal	Project 37	Lion Removal	White Pine	111-113	\$40,000	N/A	ER		\$3 Predator Fee
Cherry Creek Range Mtn Lion Removal	Project 37	Lion Removal	White Pine	121	\$40,000	N/A	ER		\$3 Predator Fee
Fawning Ground Coyote Removal	Project 38	Coyote Removal	Lincoln	231	\$40,000	N/A	SR		\$3 Predator Fee

**\$120,000**

**Estimated Funding Available: \$120,000**

*(Pulled from Consideration in 2022)*

081	Crucial Winter Range Bitterbrush Planting		Elko Area 7-8-9	081	\$26,000	78.4			
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**Non-Habitat Project Proposal Form**

MDEP Team(s) Submitting Proposal: **Humboldt-Pershing**   Hunt Unit Group: **043-046**

Project Title: **Unit 043 & 044 Coyote Removal during fawning period**

1. Limiting Factor Rank Score: **5** Needs Assessment Strategy: **Predation, Coyote & Mtn. Lion removal**

2. Justification:  Downward Population Trend  3-yr avg low fawn ratios  3-yr avg low buck ratio   
 3-yr avg low harvest numbers  Disease detected  Anecdotal reports

3. Body performing work:  Wildlife Services  Private contractor   
 NDOW-Wildlife Health  Other

4. Predator Plan Project Category:  Implementation  Experimental Management  Experimentation  Data Gathering

5. Type of Project:  Lethal  Non-Lethal   
 Capture & test  Collaring effort  Other

6. Level of Monitoring:  Rigorous  Intermediate  Standard

7. Project Duration:  one year  two years  three years  4+

8. Annual Cost:  Under \$10,000  \$10 – \$25,000  \$25 - \$50,000  \$50,000+

9. Funding Source:  Heritage Fund  NGO  Predator Fund  NDOW  Wildlife Services  Other  None

10. Is funding source eligible for matching funds?  Yes  No

11. Will this project benefit additional wildlife species?  Yes  Probably  No

Additional Species Benefit: **ANTELOPE**

12. Access for public hunting?  Yes  No

13. Are there other predator projects in area?  Yes  No

14. Will project expand knowledge of the mule deer population, mule deer habitat, or predator-prey relationships?  
 Yes  Probably  No

15. Other MDEP teams involved: **Humboldt-Pershing**   **Humboldt-Pershing**

16. Additional projects approved for this team:

17. Measure of success?  Upward population trend  3-yr avg increased fawn ratio  
 3-yr avg higher observed buck ratio  3-yr avg increased 4-pts in harvest  Other

Project Start Date: **5/1/23** Estimated End Date: **7/31/25**

Funding Source(s): Estimated Project Cost: \$

*Oversight Committee Use Only*

Approved

Not Approved

Priority #

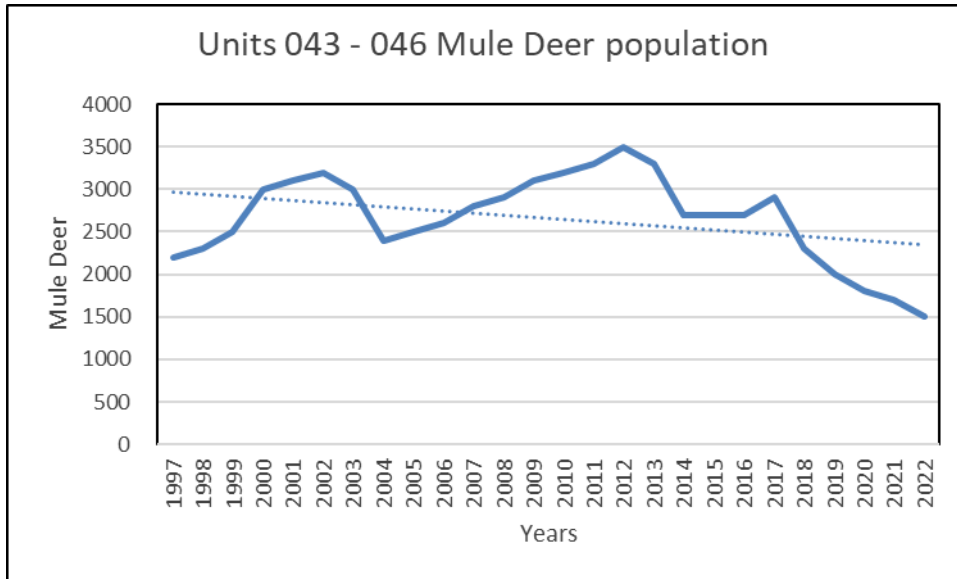
Route Project to:

Comments:

Units 043 -046 Mule Deer  
Coyote Removal Project  
MDEP Humboldt & Pershing Co.s

Background

Units 043-046's mule deer population has been declining since 2013. The 2012 published estimate was 3,500 mule deer. The 2022 published estimate is 1,500 mule deer indicating a 57% decline. 1998 to 2020 average mule deer population estimate for this herd is 2,750. Various environmental and predation factors are thought to have contributed to this rapid decline.



- Declining fall and spring survey sample sizes. Fall 2012-2018 AVG 717 deer, 2017 fall survey showed 569 deer with a post-hunt buck ratio of 23. In 2019, random polygon methodology was used on the fall survey. All units were surveyed. Results totaled 83 deer 25 bucks: 100 does: 25 fawns. Individual units (Unit 043 = 7 deer 20 bucks: 100 does: 20 fawns, Unit 044 = 45 deer 23 bucks: 100 does: 23 fawns, Unit 045 = 21 deer 39 bucks: 100 does: 23 fawns & Unit 046 = 10 deer 17 bucks: 100 does: 50 fawns). Spring 2013-2020 AVG 446 deer, no surveys or poor survey conditions 2016, 2017 & 2018. 2019 spring sample size was 449 deer with excellent survey conditions. 2020 spring survey sample size 289 deer 26 fawns: 100 does and smallest sample size since 1995. Survey conditions were considered excellent.
- Declining spring fawn ratios; below maintenance 2013-2021
  - 2013 = 781 deer = 21 fawns: 100 adults
  - 2014 = 718 deer = 22 fawns: 100 adults
  - 2015 = No Survey
  - 2016 = poor surveys conditions incomplete survey
  - 2017 = poor survey conditions incomplete survey
  - 2018 = 569 deer = 30 fawns: 100 adults
  - 2019 = 449 deer = 32 fawns: 100 adults
  - 2020 = 289 deer = 26 fawns: 100 adults
  - 2021 = 600 deer = 26 fawns: 100 adults

2019-2021 avg is 28 fawns: 100 adults

Average fawns: 100 adults 2013 to 2021 is 26. Possible coyote predation on fawns, poor body condition of does entering winter and poor winter range.

- Fall Survey totals & ratios. \* 2019 survey methodology was random polygon all other years were direct search.  
 2010 = 661 deer, 24 bucks: 100 does: 50 fawns  
 2011 = No Survey  
 2012 = 1,201 deer, 44 bucks: does: 32 fawns  
 2013 = 805 deer, 32 bucks: 100 does: 34 fawns  
 2014 = No Survey  
 2015 = No Survey  
 2016 = 592 deer, 37 bucks: 100 does: 43 fawns  
 2017 = 569 deer, 23 bucks: 100 does: 39 fawns  
 2018 = No Survey  
 2019\* = 83 deer, 25 bucks: 100 does: 25 fawns

Numerous wildfires that occurred in the early 2000s, mostly in the lower elevations that converted brush communities into annual grasslands. Since the declining population trend, a few fires have occurred in the unit group coupled with drought conditions is thought to have continued to hamper mule deer habitat in the lower elevations. The upper elevations of Units 043, 045 & 046 are thought to be in good condition during this timeframe.

### Coyote Removal Recommendations

Recommended Units for coyote removal to include 043 and 044. Coyote removal during fawning timeframe May through July for a duration of 3 years.

Unit 043 Humboldt Range, within the attached polygon with specific attention to the following drainages (canyons): Unionville area (Peru Canyon, Congress Canyon, Straight Canyon both forks & Wilson Canyon), Coyote Canyon, Bloody Canyon, Star Canyon & Santa Clara Canyon all located on the east side of the range.

Unit 044 East Range: within the polygon with specific attention to Inskip and Willow Canyons.

Recommended method for coyote removal to include aerial efforts within polygons and ground efforts in the specific canyons listed above. Request removal of mountain lions if they are encountered while performing coyote removal. Effort for removal during May-July timeframe should be at least once a week aerial/ground depending on what the crew is finding.

During the coyote removal project NDOW will conducted annual aerial spring mule deer surveys in all units within 043, 044 & 046 to obtain spring fawn ratios to determine project success.

During coyote control efforts in Units 043 and Unit 044, Unit 046 would be the untreated group. In the past, these units have all showed similar recruitment rates and could suggest if coyote removal has been effective and if coyote removal in Unit 046 is warranted.

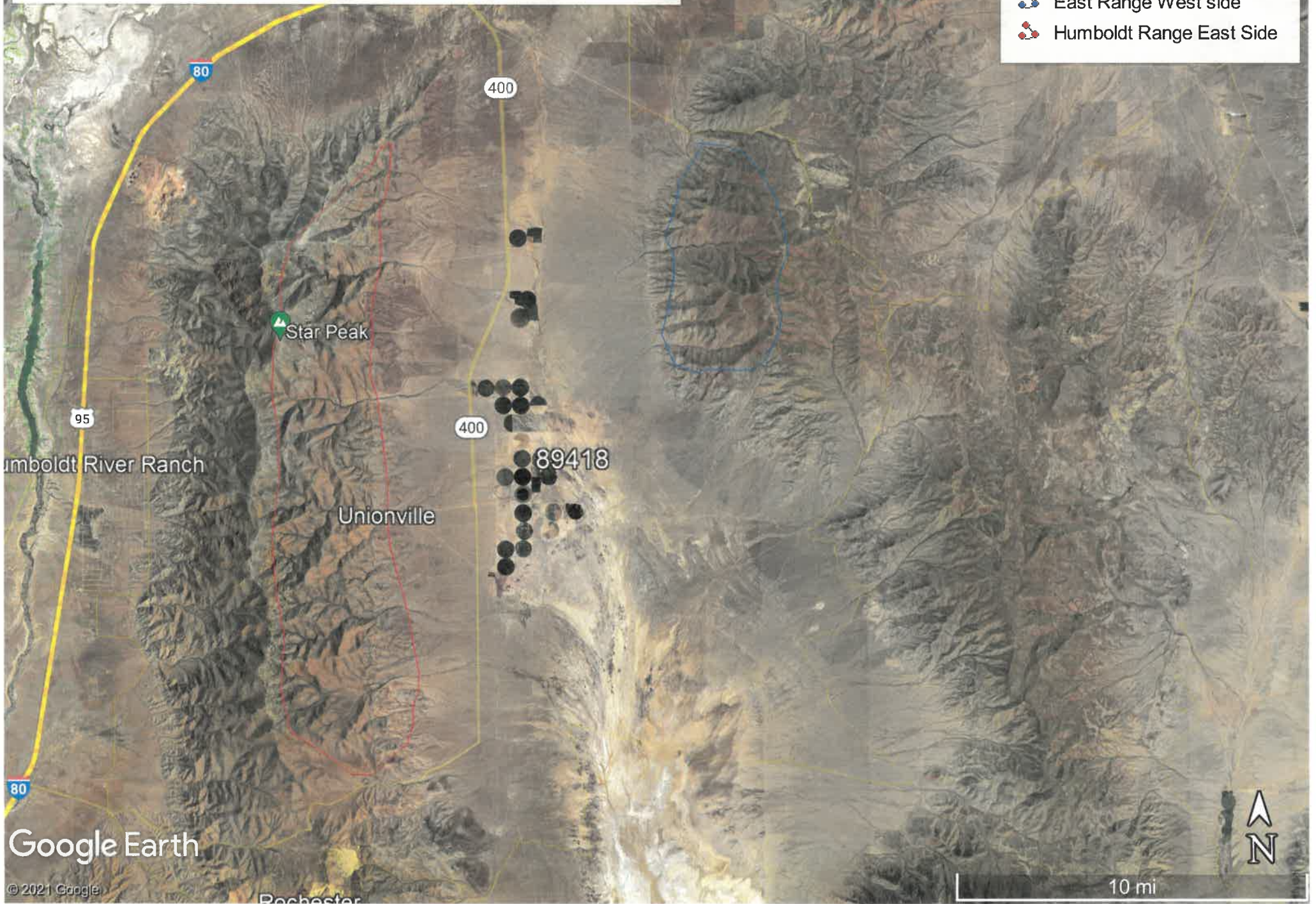
The overall goal is to increase fawn recruitment to a level above maintenance and get this herd's population back to 1998 – 2020 average size of 2,750 mule deer.

# Units 043, 044 Coyote Removal Project Map

Map showing the locations of Units 043 and 044 for the Coyote Removal Project.

## Legend

-  ?
-  East Range West side
-  Humboldt Range East Side



Google Earth

© 2021 Google

Recheater

10 mi

<b>Non-Habitat Project Proposal Form</b>			
MDEP Team(s) Submitting Proposal: <b>Lincoln</b>		Hunt Unit Group: <b>MA 23</b>	
Project Title: <b>Predator Removal in Priority Fawning Grounds</b>			
1. Limiting Factor Rank Score: <b>4</b>		Needs Assessment Strategy: <b>Coyote Removal</b>	
2. Justification: Downward Population Trend <input type="checkbox"/> 3-yr avg low fawn ratios <input checked="" type="checkbox"/> 3-yr avg low buck ratio <input type="checkbox"/> 3-yr avg low harvest numbers <input type="checkbox"/> Disease detected <input type="checkbox"/> Anecdotal reports <input checked="" type="checkbox"/>			
3. Body performing work: Wildlife Services <input checked="" type="checkbox"/> Private contractor <input type="checkbox"/> NDOW-Wildlife Health <input type="checkbox"/> Other <input type="checkbox"/>			
4. Predator Plan Project Category: Implementation <input checked="" type="checkbox"/> Experimental Management <input type="checkbox"/> Experimentation <input type="checkbox"/> Data Gathering <input type="checkbox"/>			
5. Type of Project: Lethal <input checked="" type="checkbox"/> Non-Lethal <input type="checkbox"/> Capture & test <input type="checkbox"/> Collaring effort <input type="checkbox"/> Other <input type="checkbox"/>			
6. Level of Monitoring: Rigorous <input type="checkbox"/> Intermediate <input type="checkbox"/> Standard <input checked="" type="checkbox"/>			
7. Project Duration: one year <input type="checkbox"/> two years <input type="checkbox"/> three years <input checked="" type="checkbox"/> 4+ <input type="checkbox"/>			
8. Annual Cost: Under \$10,000 <input type="checkbox"/> \$10 – \$25,000 <input type="checkbox"/> \$25 - \$50,000 <input checked="" type="checkbox"/> \$50,000+ <input type="checkbox"/>			
9. Funding Source: Heritage Fund <input type="checkbox"/> NGO <input type="checkbox"/> Predator Fund <input checked="" type="checkbox"/> NDOW <input type="checkbox"/> Wildlife Services <input type="checkbox"/> Other <input checked="" type="checkbox"/> None <input type="checkbox"/>			
10. Is funding source eligible for matching funds? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
11. Will this project benefit additional wildlife species? Yes <input checked="" type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Additional Species Benefit:			
12. Access for public hunting? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
13. Are there other predator projects in area? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
14. Will project expand knowledge of the mule deer population, mule deer habitat, or predator-prey relationships? Yes <input checked="" type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/>			
15. Other MDEP teams involved: <b>Lincoln</b>		<b>Lincoln</b>	
16. Additional projects approved for this team: <b>No Projects Approved</b>			
17. Measure of success? Upward population trend <input checked="" type="checkbox"/> 3-yr avg increased fawn ratio <input checked="" type="checkbox"/> 3-yr avg higher observed buck ratio <input type="checkbox"/> 3-yr avg increased 4-pts in harvest <input type="checkbox"/> Other <input type="checkbox"/>			
Project Start Date: <b>1/1/23</b>		Estimated End Date: <b>12/31/26</b>	
Funding Source(s): <b>Predator, MVWU</b>		Estimated Project Cost: \$ <b>50,000/year</b>	
<i>Oversight Committee Use Only</i>			
Approved <input type="checkbox"/>		Not Approved <input type="checkbox"/>	
Priority #			
Route Project to:			
Comments:			

## **Lincoln County Mule Deer Enhancement Subcommittee Non-Habitat Project Proposal Supplement Predator Removal in Priority Fawning Grounds**

The Lincoln County Mule Deer Enhancement Subcommittee (Subcommittee) provides this supplement to the Predator Removal in Priority Fawning Grounds proposal outlined on the Non-Habitat Project Proposal Form. For the three project proposals submitted to the Oversight Committee addressing Management Areas (MAs) in Lincoln County, we prioritized projects based on timing to implementation and the period foreseen for achieving benefits to mule deer and associated wildlife. The *Predator Removal in Priority Fawning Grounds* project is ranked top priority as it will be implemented in Spring 2023 providing immediate benefit to the wildlife resource.

Predator removal would focus on coyotes frequenting priority fawning grounds in MAs 23. Removals will occur in early spring when coyotes are establishing mating pairs and ground conditions are ideal for locating coyotes. Studies indicate coyotes increase energetic demands when rearing young and are more likely to take larger prey such as mule deer fawns (Sacks et al. 1999, Siedler et al. 2014, Till and Knowlton 1983). Among the fawning areas selected, those where habitat improvement projects were previously implemented will be emphasized. Targeting coyotes in fawning areas immediately preceding and during the fawning season has the highest potential to yield desired results (Brown and Conover 2011, Watine and Giuliano 2016). Project duration will be over three to four consecutive years for optimizing benefit to mule deer and other wildlife species.

The Subcommittee will prepare and provide polygons identifying coyote removal areas along with supporting information to NDOW's Predator Staff Biologist for methods and logistics finalization. In doing so, we are open to using any method available necessary for effective coyote removal, including both aerial gunning and on-the-ground trapping. Trapping efforts may not be available and have a higher cost/benefit ratio to consider. If trapping is used, the subcommittee would work closely with the trapper to ensure our objectives are being met. If aerial gunning is used, we will provide the gunning crew with detailed maps of priority areas and ensure efforts take place when conditions are ideal for success. The subcommittee will apply for funding through the Predator Fund. Meadow Valley Wildlife Unlimited has also stated they may have funds available to assist with project funding. We estimate the project will cost between approximately \$50,000 per year for adequate implementation over the projected three years.

Top priority ranking of this project is attributable to several population considerations including mule deer population size, the three-year fawn to adult ratio, and harvest success. Mule deer populations have decreased significantly in MA 23 – population size has declined from a high of 3,500 in 2017 to 2,200 in 2022. The three-year average spring fawn:adult ratios in MA 23 is 22 fawns:100 adults, which is well below the management objective of 30 fawns:adult. Harvest for has also dropped from a high of 253 bucks to 171 in 2021. Due to notable reductions in total population size, fawning ratios, and harvest numbers in MA 23, the



Subcommittee proposes predator removal as an appropriate management tool as part of the overall effort to increase mule deer populations.

## References

- Brown, D.E. and Conover, M.R. (2011). Effects of large-scale removal of coyotes on pronghorn and mule deer productivity and abundance. *The Journal of Wildlife Management*, 75: 876-882. <https://doi.org/10.1002/jwmg.126>
- Sacks, B. N., Jaeger, M. M., Jennifer C. C. Neale, & McCullough, D. R. (1999). Territoriality and Breeding Status of Coyotes Relative to Sheep Predation. *The Journal of Wildlife Management*, 63(2), 593–605. <https://doi.org/10.2307/3802648>
- Seidler, R.G., Gese, E.M., & Conner, M.M. (2014). Using sterilization to change predation rates of wild coyotes: A test case involving pronghorn fawns. *Applied Animal Behaviour Science*, 154, 83-92.
- Till, J. A., and Knowlton, F. F. (1983). Efficacy of Denning in Alleviating Coyote Depredations upon Domestic Sheep. *The Journal of Wildlife Management*, 47(4), 1018–1025. <https://doi.org/10.2307/3808160>
- Watine, L. and Giuliano, W. (2016). Coyote Predation Effects on White-Tailed Deer Fawns. *Natural Resources*, 7, 628-643. doi: 10.4236/nr.2016.711050.

<b>Non-Habitat Project Proposal Form</b>	
MDEP Team(s) Submitting Proposal: <b>White Pine Area 11-12</b>	Hunt Unit Group: <b>121</b>
Project Title: <b>Cherry Creek Range Mountain Lion Removal</b>	
1. Limiting Factor Rank Score: <b>4.1</b>	Needs Assessment Strategy: <b>Mountain Lion Removal 4.3</b>
2. Justification: Downward Population Trend <input checked="" type="checkbox"/> 3-yr avg low fawn ratios <input checked="" type="checkbox"/> 3-yr avg low buck ratio <input checked="" type="checkbox"/> 3-yr avg low harvest numbers <input checked="" type="checkbox"/> Disease detected <input type="checkbox"/> Anecdotal reports <input type="checkbox"/>	
3. Body performing work: Wildlife Services <input checked="" type="checkbox"/> Private contractor <input checked="" type="checkbox"/> NDOW-Wildlife Health <input type="checkbox"/> Other <input type="checkbox"/>	
4. Predator Plan Project Category: Implementation <input checked="" type="checkbox"/> Experimental Management <input type="checkbox"/> Experimentation <input type="checkbox"/> Data Gathering <input type="checkbox"/>	
5. Type of Project: Lethal <input checked="" type="checkbox"/> Non-Lethal <input type="checkbox"/> Capture & test <input type="checkbox"/> Collaring effort <input type="checkbox"/> Other <input type="checkbox"/>	
6. Level of Monitoring: Rigorous <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Standard <input type="checkbox"/>	
7. Project Duration: one year <input type="checkbox"/> two years <input type="checkbox"/> three years <input checked="" type="checkbox"/> 4+ <input type="checkbox"/>	
8. Annual Cost: Under \$10,000 <input type="checkbox"/> \$10 – \$25,000 <input checked="" type="checkbox"/> \$25 - \$50,000 <input type="checkbox"/> \$50,000+ <input type="checkbox"/>	
9. Funding Source: Heritage Fund <input type="checkbox"/> NGO <input type="checkbox"/> Predator Fund <input checked="" type="checkbox"/> NDOW <input type="checkbox"/> Wildlife Services <input type="checkbox"/> Other <input type="checkbox"/> None <input type="checkbox"/>	
10. Is funding source eligible for matching funds? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
11. Will this project benefit additional wildlife species? Yes <input checked="" type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Additional Species Benefit:	
12. Access for public hunting? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
13. Are there other predator projects in area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
14. Will project expand knowledge of the mule deer population, mule deer habitat, or predator-prey relationships? Yes <input type="checkbox"/> Probably <input checked="" type="checkbox"/> No <input type="checkbox"/>	
15. Other MDEP teams involved: <b>White Pine Area 11-12</b> <b>White Pine Area 11-12</b>	
16. Additional projects approved for this team: <b>None</b>	
17. Measure of success? Upward population trend <input checked="" type="checkbox"/> 3-yr avg increased fawn ratio <input checked="" type="checkbox"/> 3-yr avg higher observed buck ratio <input checked="" type="checkbox"/> 3-yr avg increased 4-pts in harvest <input type="checkbox"/> Other <input checked="" type="checkbox"/>	
Project Start Date: <b>12/1/23</b>	Estimated End Date: <b>3/31/26</b>
Funding Source(s): <b>Predator Fund</b>	Estimated Project Cost: \$ <b>\$75,000</b>
<i>Oversight Committee Use Only</i>	
Approved <input type="checkbox"/>	Not Approved <input type="checkbox"/>
Priority #	
Route Project to:	
Comments: <b>See Attached.</b>	

## **Cherry Creek Range Mountain Lion Removal**

The north end of the Cherry Creek Range has typically had lower mule deer density than southern portions of Hunt Unit 121. In recent years, mule deer density has drastically declined in this portion of the unit. In the fall of 2016, NDOW surveyed 150 mule deer on post-season surveys from the McDermid Creek area north. In 2020, NDOW surveyed 76 mule deer in the same area. Survey conditions were similar, except slightly better snow cover in 2016. Survey effort and coverage was far better in 2020 with 2 hours and 47 minutes being expended on survey compared to 1 hour and 12 minutes in 2016. Increased survey effort and fewer observed deer is evidence of a declining population. The decline in mule deer population is primarily drought related. However, with the current low mule deer numbers, mountain lions may be suppressing this population. Due to the supplemental prey sources of feral horses and domestic sheep in this area mountain lion populations may not have mimicked the mule deer decline. Removing 3-5 mountain lions per year for three years will provide relief to mule deer and allow for faster recovery of mule deer when and if drought and habitat conditions improve. Removal would be targeted on the areas north of McDermid Creek and Snow Creek. After three years of mountain lion removal, this project would be reevaluated to determine success and/or continuation of the project. Success criteria for this project may include an assessment of drought and habitat conditions over the timeframe, change in mule deer numbers, and change in mountain lion demographics (sex and age of removed mountain lions).

<b>Non-Habitat Project Proposal Form</b>	
MDEP Team(s) Submitting Proposal: <b>White Pine Area 11-12</b>	Hunt Unit Group: <b>111-113</b>
Project Title: <b>Antelope Range Mountain Lion Removal</b>	
1. Limiting Factor Rank Score: <b>4.1</b>	Needs Assessment Strategy: <b>Mountain Lion Removal 4.3</b>
2. Justification: Downward Population Trend <input checked="" type="checkbox"/> 3-yr avg low fawn ratios <input checked="" type="checkbox"/> 3-yr avg low buck ratio <input type="checkbox"/> 3-yr avg low harvest numbers <input checked="" type="checkbox"/> Disease detected <input type="checkbox"/> Anecdotal reports <input type="checkbox"/>	
3. Body performing work: Wildlife Services <input checked="" type="checkbox"/> Private contractor <input checked="" type="checkbox"/> NDOW-Wildlife Health <input type="checkbox"/> Other <input type="checkbox"/>	
4. Predator Plan Project Category: Implementation <input checked="" type="checkbox"/> Experimental Management <input type="checkbox"/> Experimentation <input type="checkbox"/> Data Gathering <input type="checkbox"/>	
5. Type of Project: Lethal <input checked="" type="checkbox"/> Non-Lethal <input checked="" type="checkbox"/> Capture & test <input type="checkbox"/> Collaring effort <input type="checkbox"/> Other <input type="checkbox"/>	
6. Level of Monitoring: Rigorous <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Standard <input type="checkbox"/>	
7. Project Duration: one year <input type="checkbox"/> two years <input type="checkbox"/> three years <input checked="" type="checkbox"/> 4+ <input type="checkbox"/>	
8. Annual Cost: Under \$10,000 <input type="checkbox"/> \$10 – \$25,000 <input checked="" type="checkbox"/> \$25 - \$50,000 <input type="checkbox"/> \$50,000+ <input type="checkbox"/>	
9. Funding Source: Heritage Fund <input type="checkbox"/> NGO <input type="checkbox"/> Predator Fund <input checked="" type="checkbox"/> NDOW <input type="checkbox"/> Wildlife Services <input type="checkbox"/> Other <input type="checkbox"/> None <input type="checkbox"/>	
10. Is funding source eligible for matching funds? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
11. Will this project benefit additional wildlife species? Yes <input checked="" type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Additional Species Benefit:	
12. Access for public hunting? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
13. Are there other predator projects in area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
14. Will project expand knowledge of the mule deer population, mule deer habitat, or predator-prey relationships? Yes <input type="checkbox"/> Probably <input checked="" type="checkbox"/> No <input type="checkbox"/>	
15. Other MDEP teams involved: <b>White Pine Area 11-12</b> <b>White Pine Area 11-12</b>	
16. Additional projects approved for this team: <b>None</b>	
17. Measure of success? Upward population trend <input checked="" type="checkbox"/> 3-yr avg increased fawn ratio <input checked="" type="checkbox"/> 3-yr avg higher observed buck ratio <input checked="" type="checkbox"/> 3-yr avg increased 4-pts in harvest <input type="checkbox"/> Other <input checked="" type="checkbox"/>	
Project Start Date: <b>12/1/23</b>	Estimated End Date: <b>3/31/26</b>
Funding Source(s): <b>Predator Fund</b>	Estimated Project Cost: \$ <b>\$75,000</b>
<i>Oversight Committee Use Only</i>	
Approved <input type="checkbox"/>	Not Approved <input type="checkbox"/>
Priority #	
Route Project to:	
Comments: <b>See Attached.</b>	

## **Antelope Range Mountain Lion Removal**

The Antelope Range, Hunt Unit 112, is a relatively small, isolated mountain range with a declining mule deer population. In 2016, NDOW surveyed 287 mule deer on the east side of the Antelope Range on spring mule deer surveys. In 2022, NDOW surveyed 35 mule deer in the same area, under similar survey conditions and effort expended. The decline in mule deer population in this area is primarily drought related. However, with the current low mule deer numbers, mountain lions may be suppressing this population. Due to the supplemental prey sources of feral horses and domestic sheep in this area mountain lion populations may not have mimicked the mule deer decline. Due to the remote nature of this area, sport harvest on mountain lions is low. Removing 3-5 mountain lions per year for three years will provide relief to mule deer and allow for faster recovery of mule deer when and if drought and habitat conditions improve. Removal would be targeted on the east side of the Antelope Range between Red Rocks and Stockade Spring, where most mule deer winter in this area. After three years of mountain lion removal, this project would be reevaluated to determine success and/or continuation of the project. Success criteria for this project may include an assessment of drought and habitat conditions over the timeframe, change in mule deer numbers, and change in mountain lion demographics (sex and age of removed mountain lions). To further monitor mountain lion numbers in this area, up to 25 trail cameras would be placed on isolated water sources throughout the mountain range.