

NEVADA

WILDLIFE

Clark County Mule Deer Enhancement Program

Herd History and Overview of Limiting Factors

June 2022

Mule Deer Ecology: Overview

Adapted to most ecosystems

Overall declining range-wide

Threats

- Urban development
- Oil and gas development
- Agriculture and logging

- Extreme weather/drought
- Wildfire and burning
- Invasive plants and nonnative competition

Mule Deer Ecology: Nutrition and Habitat

- Browsing Species
 - Diet consist mainly of shrubs
 - Preference for younger plants and new growth
- Nutrition critical for:
 - Survival, reproduction, antler growth
- Habitat provides:
 - Nutrition, escape cover, thermal cover

History of Mule Deer in Nevada

- Pre-European Settlement:
 - Present in low numbers
- Early to Mid-Century:
 - Increased due to grazing, logging, fire suppression, predator eradication etc.
- Modern Era:
 - Better monitoring; declining
 - Poor habitat conditions



Figure 1. An approximation of Nevada's mule deer population dynamics from the late 1800s to 2003. Although early data are sparse the United States Forest Reserves began reporting mule deer estimates in the early 1900s.



Mule Deer Enhancement Program

- Provide input to the Wildlife Commission with mule deer habitat challenges.
- Identify limiting factors of mule deer herds.
- Develop projects to investigate limiting factors.

Sources of Funding

- NGO Partners
- Federal Partners
- Federal Grants
- Heritage Fund
- Predator Fund
- Habitat Conservation Fee

Clark County Units: Areas 26, 27, & 28



Clark County Units: Areas 26, 27, & 28





Mule Deer in Southern Nevada: Area 26

- Majority in Spring Mountains
- Marginal habitat; prefer sagebrush
- Low density population: estimated 500

Area 26 Harvest Stats:

Percent Hunter Success



Area 26 Harvest Stats:

Percent 4-point or Better





Area 27- The Mormon and Virgin Mountains

Mule Deer in Southern Nevada: Area 27

Low density population- estimated 240

Exceptional drought

Poor forage availability

Area 27 Harvest Stats





Area 28-Desert National Wildlife Refuge and Nevada Test and Training Range

Mule Deer in Southern Nevada: Area 28

No surveys or tags issued

Exceptional drought

Poor forage availability

Limiting Factors

- Human expansion
- Drought
- Habitat degradation

Human Influences on Mule Deer

Human activity can change mule deer distribution

Activities can alter resource availability and increase competition or energy use

Roadways and fences can hinder deer movement and cause mortality

Drought in Nevada

Nevada Percent Area in U.S. Drought Monitor Categories





Drought in Nevada



Intensity: None **D0** (Abnormally Dry) **D1** (Moderate Drought) D2 (Severe Drought) D3 (Extreme Drought) **D4** (Exceptional Drought) No Data

Habitat Change Through Fire

• Can have a long-term benefit through promoting growth of young shrubs

 May allow invasive grasses to become dominant (grass-fire cycle)

Invasives lack nutrition and structure

Feral Horse and Burro Estimates

	4				
HMA/WHBT	Horse	Burro	Mule	Horse AML	Burro AML
Johnnie HMA	350	354	0	0	65-108
Red Rock HMA	86	45	1	16-27	29-49
Wheeler Pass HMA	65	127	0	47-66	20-35
Gold Butte HMA	0	628	-	0	22-98
Muddy Mountains HMA	44	43	-	0	0
El Dorado Mountains HMA	0	0	-	0	0

Feral Horse and Burro Management

2012 Red Rock- 27 burros

2014 Johnnie- 12 burros outside HMA

2015 Wheeler Pass- 234 horses

2018 Spring Mountains WHBT- 148 horses

2019 Red Rock- 237 horses

2022 Spring Mountains proposed gather



Water Development



In Conclusion

- Difficult to monitor and manage
- Drought, habitat degradation, and other factors have led to reduced mule deer populations
- Several projects to improve mule deer habitat
- Teamwork makes the mule deer dream work!

Nevada Board of Commissioners Mule Deer Enhancement Oversight Committee Mule Deer Enhancement Subcommittee

The meeting is in recess for submission of Public Comment. To contribute a comment, please raise your virtual hand or email ndowgame@ndow.org.



Mule Deer Needs Assessment - Clark

					Priority
				C) = Lowest
					Priority
		_	Mul	e Deer Unit G	roup
Potential Limiting Factors	Management Action Strategy		261-269	272	280-286
		Native Seed			
	Planting	Shrub Plantings			
		Strategic Non-Native Seeding			
		Chemical Fallow			
	Herbicide	Targeted Application			
		Biological Control			
Wildfire and Invasives		Grazing Management			
		Mechanical Thinning/Removal			
		Green Strip			
	Fuels Management	Chemical Fallow			
		Mechanical Removal			
		Fencing			
		Prescribed Fire			
	Removal	Mechanical - Masticator			
		Mechanical - chaining			
		Hand Thinning			
		Lop and Scatter			
Conifor Invasion		Pile and Burn			
Conner invasion		Prescribed Fire			
	Restoration - Protection	Overseeding			
		Fencing			
		Grazing Management			
		Herbicide - Spot Treatment			
		Mechanical Removal/Thinning			
		Overseeding			
		Shrub Plantings			
Lack of Diversity	Habitat Improvement	Fencing			
		Grazing Management			
		Easement / Acquistion			
		Water Development			
		Spring Protection			

5 = Highest

Potential Limiting	Management		Mule Deer Unit Group			
Factors	Action	Strategy	261- 269	272	244	
		Easement / Acquistion				
		Transportation Passage				
		Migration Corridor				
		Fence Modifications				
Lack of Connectivity	Protection	Land Use Planning				
		Dept. of Transportation Action				
		- Wildlife Crossing				
		- Add road signs				
		Private Lands Action				
		Coyote Removal				
	Project	Mountain Lion Removal				
Predation		Trail Camera Grid				
		Predator Research				
		Deer Collaring Study				
Wildlife Health &	Prescription	Disease Testing				
		Age Structure Study				
Disease		Limit Harrassment				
		Adjust Tag Numbers				
	Big Game	Big Game Collaring				
		Trapping & Transplant				
Data Gaps		Modify Survey & Inventory				
		Increased Law Enforcement				
		Add / Remove Late Hunt				
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Direct or Indirect	Prescription					
Other	Prescription					
Other	Prescription					

Mule Deer Limiting Factor Ranking Sheet

5 = High Impact 0 = Low

			Ітрас	t
	County: Clark	Mule [Deer Unit	Group
	Potential Limiting Factor Rate (0 - 5)	261-269	272	280-286
	Wildland Fire			
	Invasive or Noxious Weeds			
	Pinyon-Juniper (Conifer) Invasion			
	Shrub senescence			
Habitat	Improper grazing - Wild horses			
	Improper grazing - Livestock			
	Climate/Weather			
	Limited Water Distribution			
	Inadequate Migration Corridor			
	Human Impacts – Direct			
	- Collisions with vehicles			
	- Shed antler hunting			
	- Off-road vehicle use			
	- Fences			
Habitat or Population	- Powerlines			
	- Urban Development			
	- Industrial Development (Renewable Energy)			
	- Heavy Industry			
	- Other (List):			
	Human-caused mortality (hunting & poaching)			
Population	Predation			
	Disease			
	Conflicts with Laws/Policies/Regulations**			
Other	Other (List):			

**NEPA, Wilderness, ESA, Wild Horse and Burro Act, BLM Fire Plan/Policy, lawsuits, NDOW policies

Area 26						Area 27	
			% Hunter		population		
Year	1st Choice	Tags Sold	Success	% 4+ pts	estimate	Year	19
2005	230	55	35	47		2005	
2006	263	55	36	20		2006	
2007	275	66	36	9		2007	
2008	241	47	55	19		2008	
2009	336	46	59	31		2009	
2010	318	47	64	50		2010	
2011	386	34	68	26		2011	
2012	362	44	61	35		2012	
2013	370	42	71	25		2013	
2014	382	38	68	32		2014	
2015	471	50	68	58		2015	
2016	464	50	74	51		2016	
2017	582	60	78	43		2017	
2018	819	62	84	45		2018	
2019	949	68	66	53	500	2019	
2020	1,156	73	67	34	500	2020	
2021	1037	75	31	28	500	2021	

Area 27					
Voor	1st Chaisa	Tage Cold	% Hunter	0/ 4 L ptc	population
rear	1st Choice	Tags Sold	Success	% 4+ pts	estimate
2005				73	
2006				57	
2007				35	
2008				55	
2009				70	
2010				90	
2011				44	
2012				54	
2013				45	
2014				65	
2015				62	
2016				46	
2017				65	
2018			24	33	240
2019				55	240
2020	196	25	39	56	240
2021	168	25	43	60	240

Predator Influence

Predator removal ≠ more mule deer

Better habitat = more food, cover, better resilience

Predator management = mitigate predator influence

Increased nutrition, improved habitat structure, predator removal, etc

Big Game Guzzlers







