

Subcommittee Members: Craig Burnside, Gregg Hess,  
Justin Fricke, Rob Boehmer, Matt Bernard, John Valley,  
Dan Vidovich, Deny Dotson

Department Representative: Carl Lackey  
Matt Maples

**Nevada Board of Wildlife Commissioners  
Mule Deer Enhancement Oversight Committee  
Mule Deer Enhancement Program Subcommittee  
Carson, Douglas, Storey Counties;  
Management Areas 19 & 29  
April 21, 2021**

Meeting held via [www.Zoom.us](http://www.Zoom.us)

**DRAFT Minutes**

- 1. Call to Order – Department Representative, Carl Lackey**  
Meeting called to order 5:32 PM.

**Roll Call of subcommittee members and introductions**

**In attendance:**

Justin Fricke, Subcommittee Member  
Matt Bernard, Subcommittee Member  
John Valley, Subcommittee Member  
Craig Burnside, Subcommittee Member  
Deny Dotson, Subcommittee Member  
Greg Hess, Subcommittee Member  
Carl Lackey, Department Representative  
Matt Maples, Department Representative

- 2. Approval of Agenda**

**Craig Burnside motioned to approve the agenda.**

**Matt Bernard seconded the motion.**

**The motion passed unanimously.**

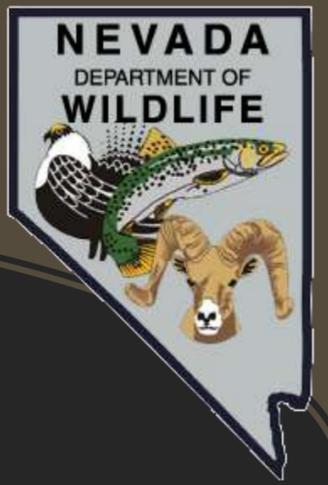
- 3. \*Report on Mule Deer Enhancement Program**

Game Biologist Carl Lackey presented a slideshow that reviewed mule deer population characteristics, issues affecting deer populations, and habitat and research projects for the Areas 19 and 29 mule deer herds (Attachment A). After the presentation, Subcommittee members asked questions.

- 4. Public Comment Period**

Meeting attendees were instructed to submit public comment to the following email address: [ndowgame@gmail.com](mailto:ndowgame@gmail.com). After a short recess of the meeting, public comment received via this email address were read out to the Committee. There was no public comment.

Meeting adjourned at 6:20 PM.



# Nevada Department of Wildlife Mule Deer Enhancement Program

## Carson, Douglas, and Storey Counties

Tri-County Mule Deer Enhancement Team



Prepared for the Tri-County Mule Deer Enhancement Team  
Spring 2021



# Nevada Department of Wildlife Mule Deer Enhancement Program

## Carson, Douglas, and Storey Counties

Tri-County Mule Deer Enhancement Team

### Presentation Components

- **Concept and Details of statewide MDEP**
  - ✓ Oversight Committee and Staff
  - ✓ List of Area Teams
  - ✓ Funding Sources, etc
- **Our Team – Areas 19 & 29**
  - ✓ Population metrics, habitat concerns and other info



- **Create an Oversight Committee that will provide input to the Wildlife Commission and NDOW with various mule deer habitat and management challenges**
- **Create Mule Deer teams representing various areas and hunt unit groups around the state. These teams include both Game and Habitat biologists from NDOW**
- **NDOW biologists will provide each team with current and historic information related to mule deer herds**
- **The Mule Deer teams will discuss various mule deer limiting factors and make recommendations about how to address them**



- **The Management Plan for Mule Deer**
- **Sagebrush Conservation Initiative**
- **Secretarial Order 3362**
- **Nevada Wildlife Action Plan**
- **Changes to Categorical Exclusions**
- **Relevancy Road Map**
- **Recovering America's Wildlife Act**
- **NDOW's Mission Statement**

The Mule Deer Enhancement Program is consistent with:



## Oversight Committee

- **Wildlife Commissioner Casey Kiel (Chairman)**
- **Wildlife Commissioner Jon Almberg**
- **Wildlife Commissioner Tom Barnes**
- **Wildlife Commissioner Shane Rogers**
- **Charlie Clements – USDA Rangeland Scientist**
- **Jeremy Drew – Resource Specialist & Former Wildlife Commission Chairman**
- **Cory Lytle – Meadow Valley Wildlife Unlimited**
- **Jim Rackley – Nevada Muleys**
- **Josh Vittori – Former President of Nevada Bighorns Unlimited**
- **BLM – Ex-officio - TBA**
- **USFS – Ex-officio - TBA**



## NDOW Staff to the Oversight Committee

- **Cody Schroeder – Game Division Staff Mule Deer Biologist**
- **Alan Jenne – Habitat Division Administrator**
- **Mike Scott – Game Division Administrator**

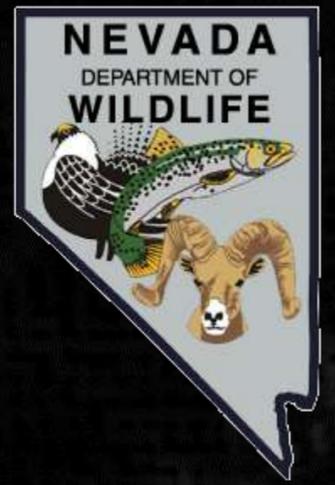


- **Washoe County – Areas 1, 2, & Unit 033**
- **Humboldt / Pershing Counties – Areas 3, 4, & 5**
- **Lander County – Area 15**
- **Elko County - Area 6 including 065**
- **Elko County - Areas 7, 8, & 9**
- **Elko County - Area 10**
- **Eureka County – Area 13 & 14**
- **White Pine County – Areas 11 & 12**
- **White Pine County – Area 13**
- **Lincoln County – Areas 22, 23, 24, & 27**
- **Clark County – Area 26, Unit 244, Unit 272**
- **Nye/Esmeralda Counties–Areas 16, 17, 21, & 25**
- **Mineral/Churchill/Nye Counties – Areas 18 & 20**
- **Douglas/Carson/Storey Counties–Areas 19 & 29**

**14 Mule Deer Teams**



- **The Mule Deer Enhancement Program will rely on existing sources of funding for implementation of projects approved by the Oversight Committee.**
  - ✓ **Heritage Fund**
  - ✓ **NGO Partners**
  - ✓ **Federal Land Management Agencies**
  - ✓ **Predator Fund**
  - ✓ **Federal Grants**
  - ✓ **Habitat Conservation Fee**



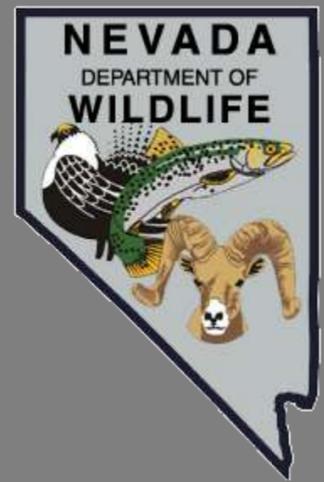
All Teams will complete the following forms relative to their areas



# Mule Deer Limiting Factor Ranking Sheet

County: Douglas-Carson City-Storey		Mule Deer Unit Group	
Potential Limiting Factor	Rate (0 - 5)	192, 194, 195, 196	291
Wildland Fire			
Invasive or Noxious Weeds			
Pinyon-Juniper Invasion			
Shrub senescence			
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 racing			
- Other:			
<i>Human Impacts - Direct - Mean</i>			
Human Impacts –Indirect			
- Fences			
- Powerlines			
- Development			
- Other:			
<i>Human Impacts - Indirect - Mean</i>			
Mining			
Predation			
Disease			
Human-caused mortality (hunting & poaching)			
Conflicts with Laws/Policies/Regulations**			

*policies, etc.*



# Mule Deer Needs Assessment

Potential Limiting Factors	Management Action	Strategy	Mule Deer Unit Group	
			192, 194, 195, 196	291
Wildfire and Invasives	Planting	Native Seed		
		Shrub Plantings		
		Strategic Non-Native Seeding		
	Herbicide	Chemical Fallow		
		Targeted Application		
		Biological Control		
	Fuels Management	Grazing Management		
		Mechanical Thinning/Removal		
		Green Strip		
		Chemical Fallow		
Mechanical Removal				
Fencing				
Prescribed Fire				
Conifer Invasion	Removal	Mechanical - Masticator		
		Mechanical - chaining		
		Hand Thinning		
		Lop and Scatter		
		Pile and Burn		
		Prescribed Fire		
	Restoration - Protection	Overseeding		
		Fencing		
		Grazing Management		
		Herbicide - Spot Treatment		
Lack of Diversity	Habitat Improvement	Mechanical Removal/Thinning		
		Overseeding		
		Shrub Plantings		
		Fencing		
		Grazing Management		
		Easement / Acquisition		
		Water Development		
		Spring Protection		



# Mule Deer Needs Assessment

Continued

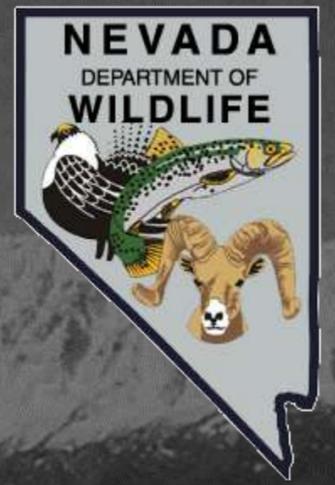
Potential Limiting Factors	Management Action	Strategy	Mule Deer Unit Group	
			192, 194, 195, 196	291
Lack of Connectivity	<i>Protection</i>	Easement / Acquisition		
		Transportation Passage		
		Migration Corridor		
		Fence Modificaitons		
		Land Use Planning		
		Dept. of Transportation Action		
		- Wildlife Crossing		
		- Add road signs		
		Private Lands Action		
Predation	<i>Project</i>	Coyote Removal		
		Mountain Lion Removal		
		Trail Camera Grid		
		Predator Research		
		Deer Collaring Study		
Wildlife Health & Disease	<i>Prescription</i>	Disease Testing		
		Age Structure Study		
		Limit Harrassment		
		Adjust Tag Numbers		
Data Gaps	<i>Big Game</i>	Big Game Collaring		
		Trapping & Transplant		
		Modify Survey & Inventory		
		Increased Law Enforcement		
		Add / Remove Late Hunt		



# Field Trips

- Field trips to get Mule Deer Team members out to look at past, current, or future projects will be encouraged as soon as it can be done safely and within the guidelines that must be followed.



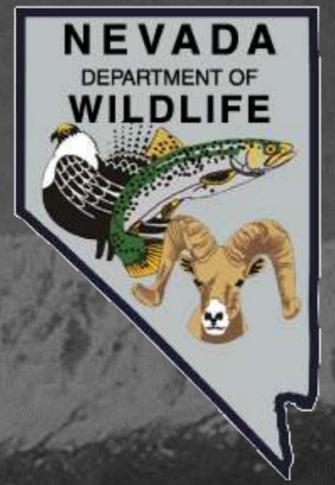


# MDEP – Areas 19 & 29

## Carson, Douglas, and Storey Counties

Tri-County Mule Deer Enhancement Team





# MDEP – Areas 19 & 29

## Carson, Douglas, and Storey Counties

Tri-County Mule Deer Enhancement Team

### Tri-County Mule Deer Enhancement Team Areas 19 & 29

#### **NDOW**

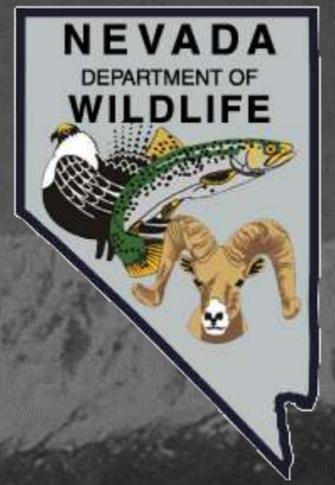
- Carl Lackey – Game Division
- Matt Maples – Habitat Division

#### **Advisory Board Representatives**

- Robert Boehmer – Carson City
- Craig Burnside – Douglas County
- Greg Hess – Storey County

#### **Public/Sportsmen**

- Justin Fricke – Douglas County
- Matt Bernard – Douglas County
- John Valley – Carson City
- Dan “Bomber” Vidovich – Carson City
- Deny Dotson – Storey County

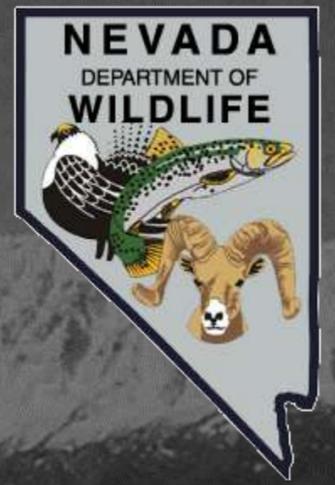


# MDEP – Areas 19 & 29

## Carson, Douglas, and Storey Counties

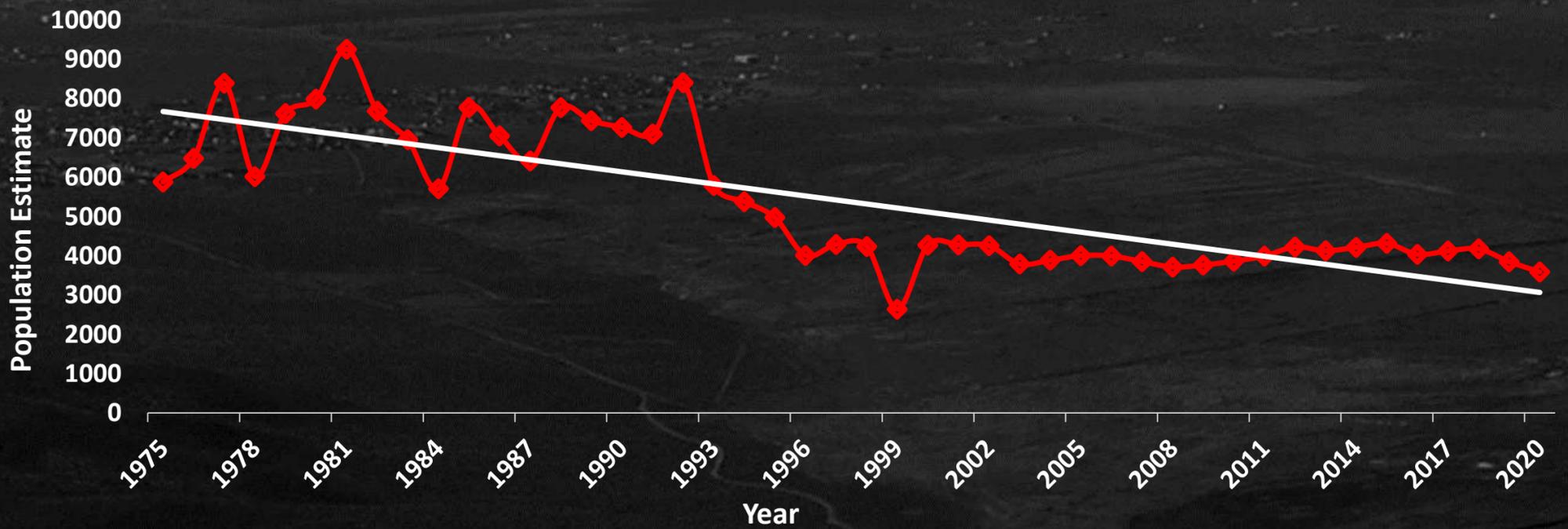
Tri-County Mule Deer Enhancement Team

- **Population Metrics**
  - ✓ Survey and harvest data
- **Major Challenges Impacting Deer**
  - ✓ Urban expansion and other limiting factors
- **Past & Current Habitat Projects**
  - ✓ Pinenut Land Health project
- **Research Projects**
  - ✓ Migration Corridor study

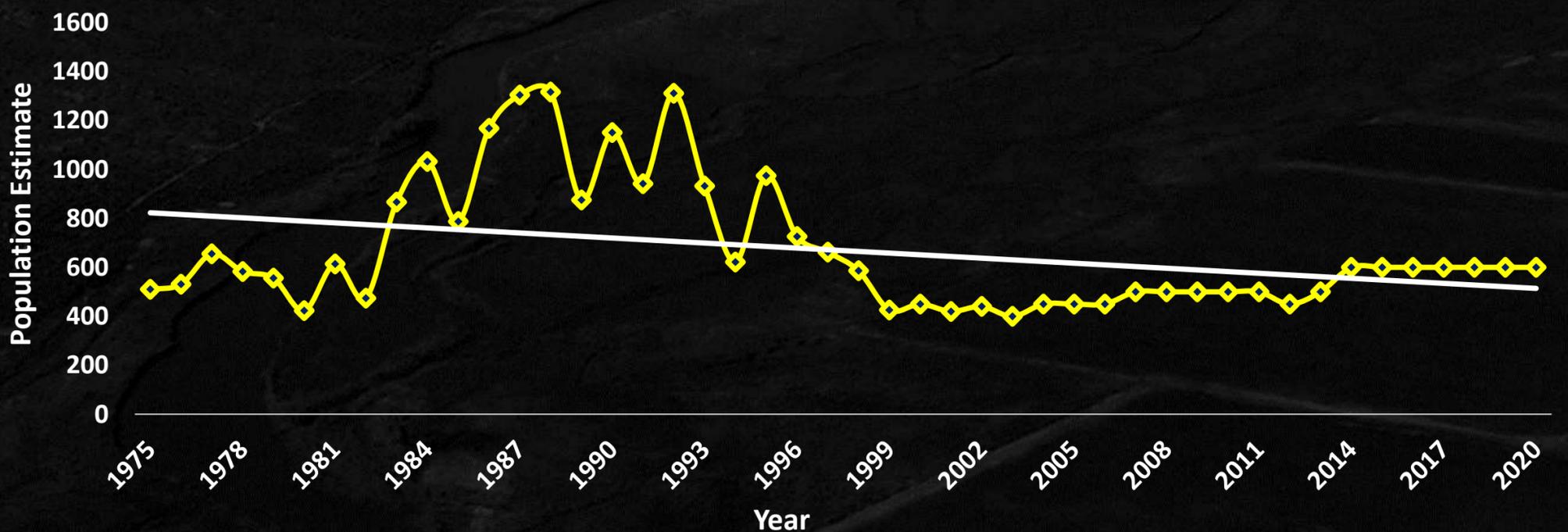


- Population Metrics

Area 19 Mule Deer Population Estimates 1975-2020



Area 29 Mule Deer Population Estimates 1975-2020



# Helicopter surveys provide data to run the population models



Surveys are conducted twice per year – Fall (post season) and Spring using Bell 407 helicopters

Objects on ground are much closer than they appear



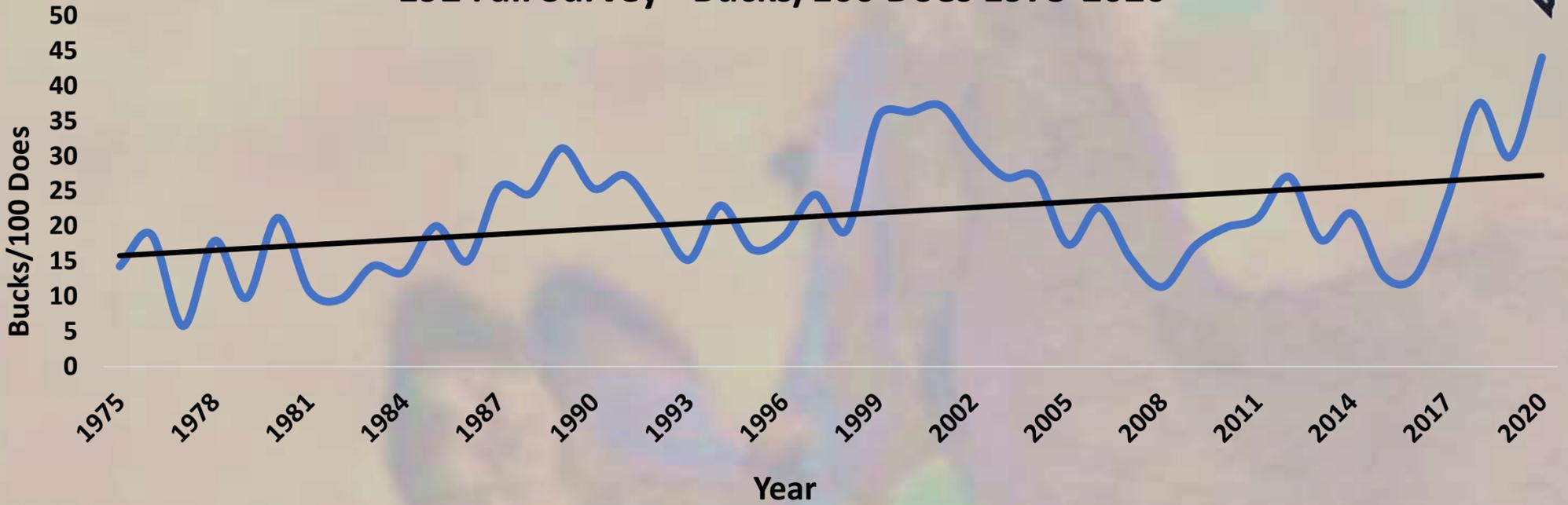
Unit 194 Spring survey - 2014

Unit 195 and Management Area 29 are not surveyed due to deer densities and tree cover

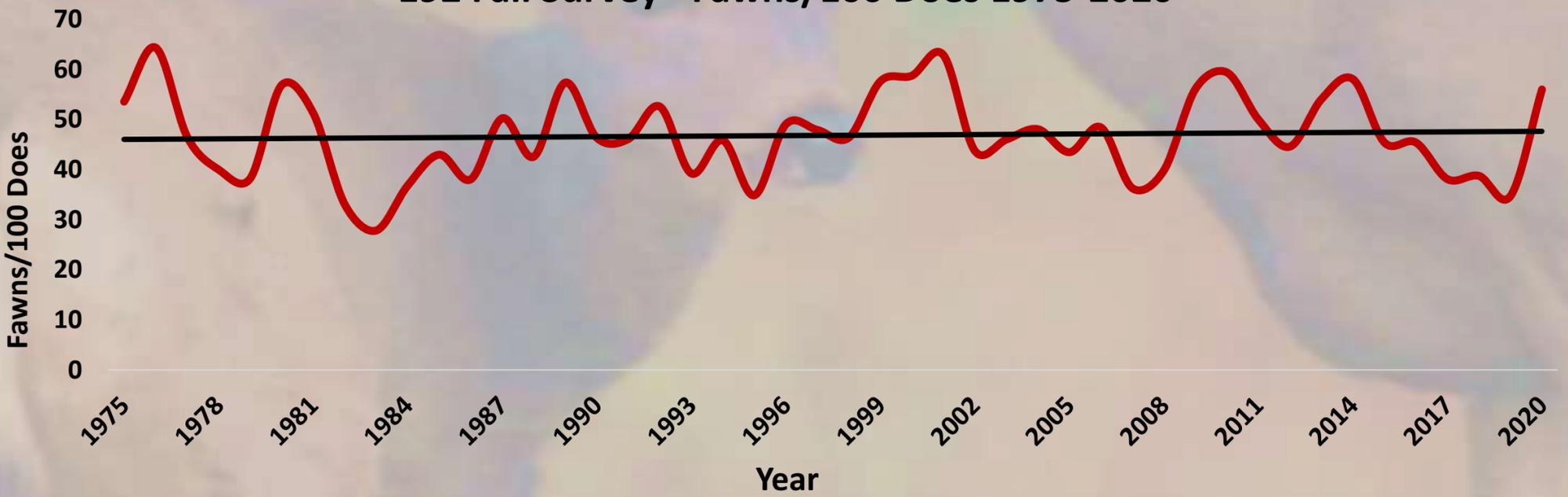


# Unit 192 Survey Data – 1975 to 2020

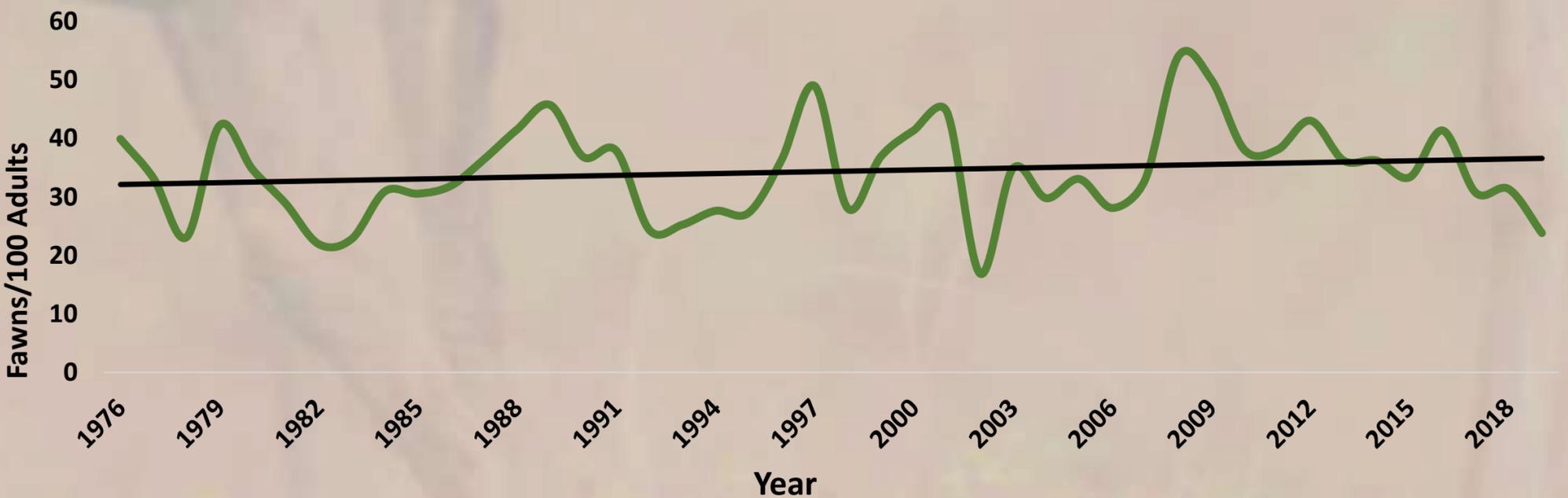
### 192 Fall Survey - Bucks/100 Does 1975-2020



### 192 Fall Survey - Fawns/100 Does 1975-2020

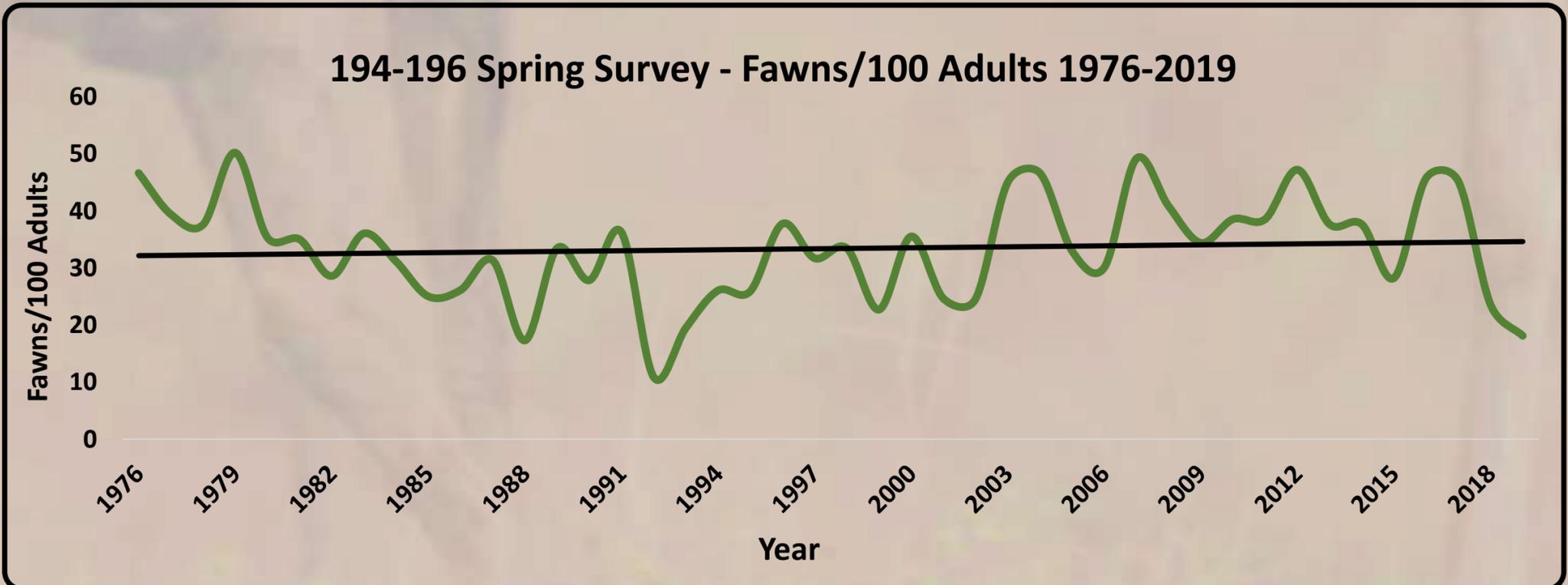
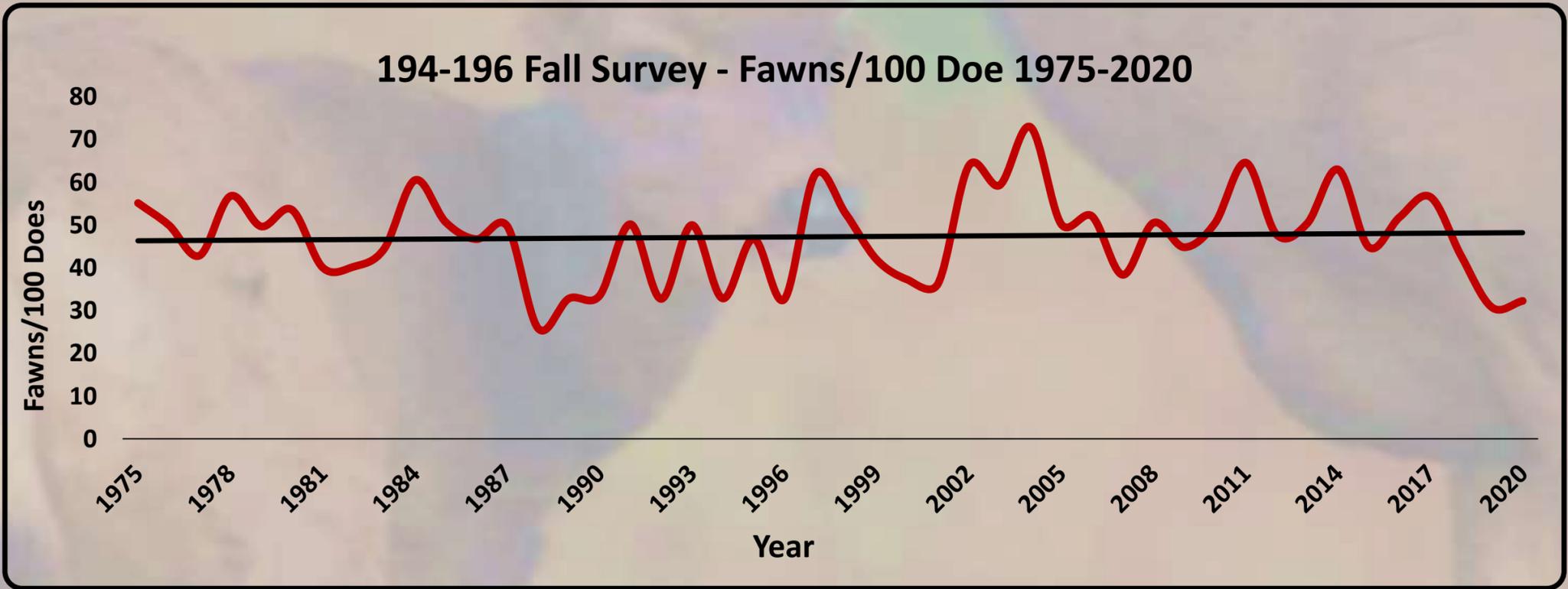
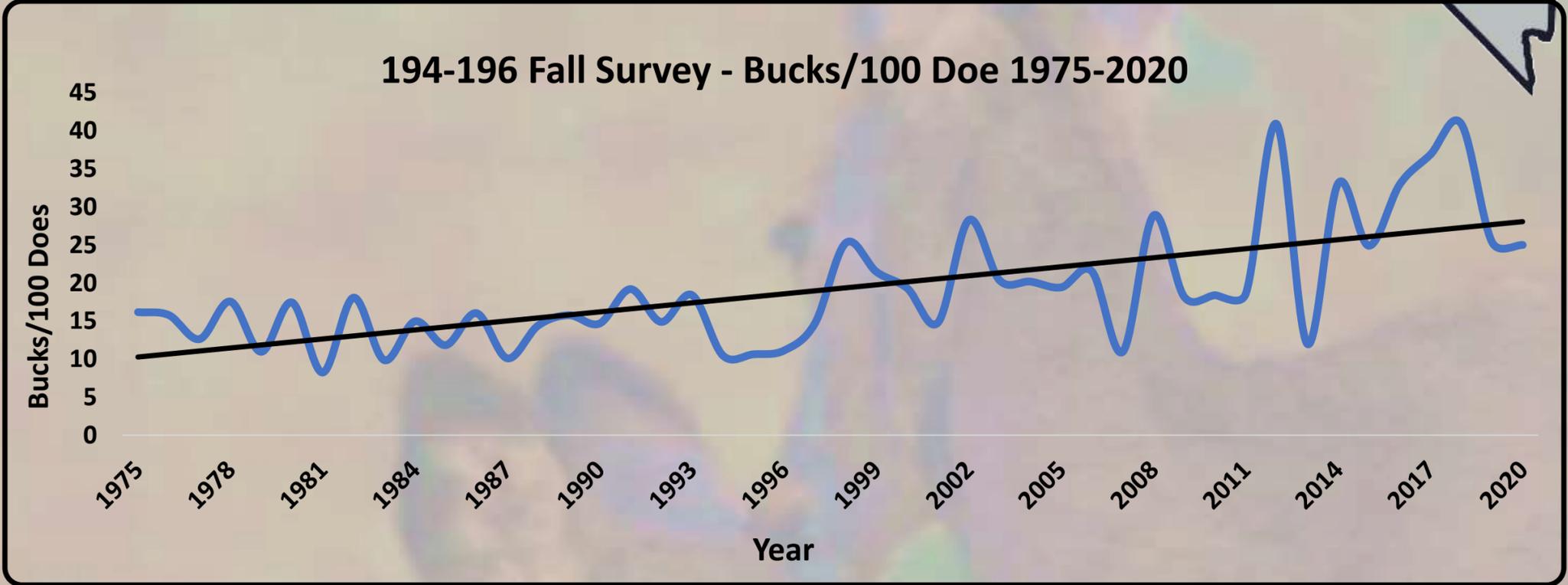


### 192 Spring Survey - Fawns/100 Adults 1976-2019



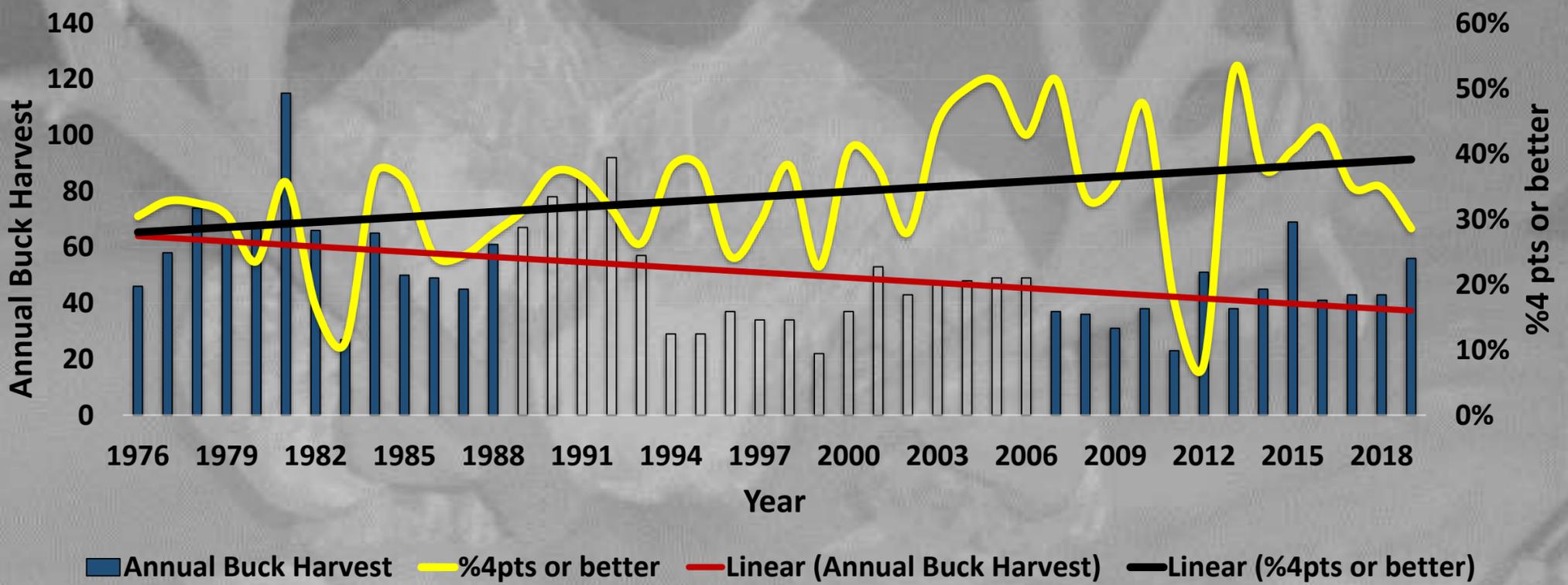


# Unit 194-196 Survey Data – 1975 to 2020

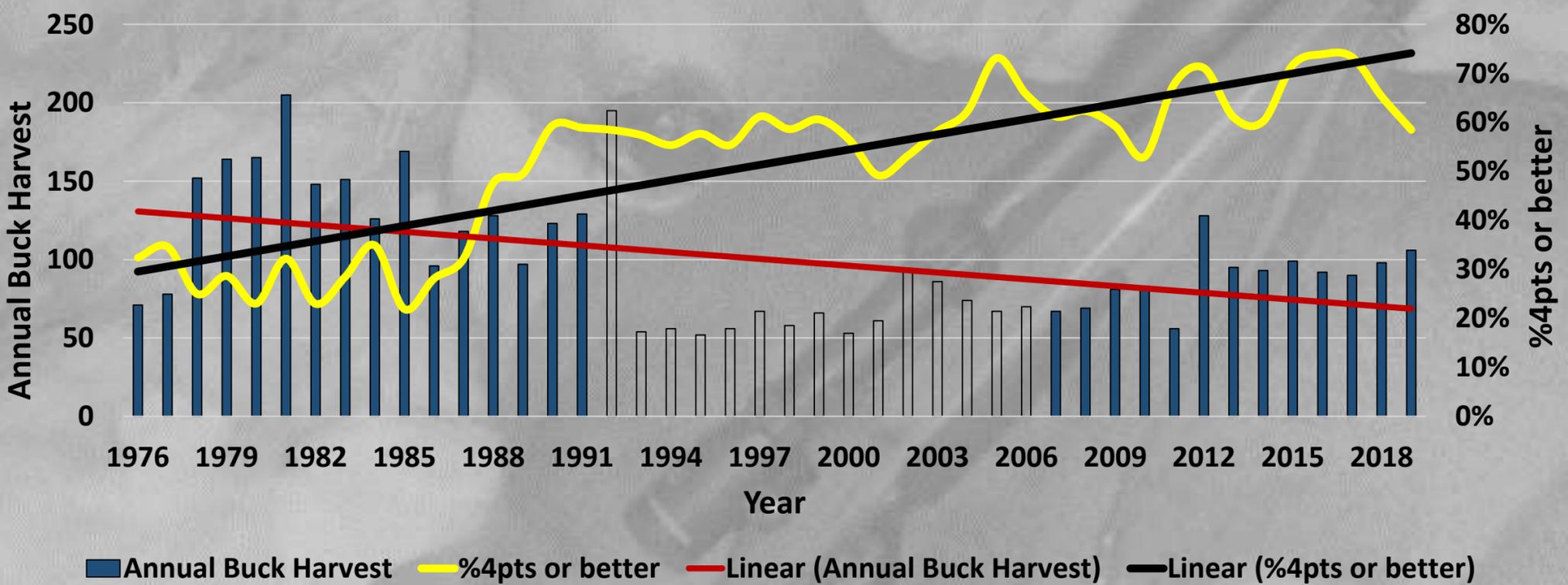


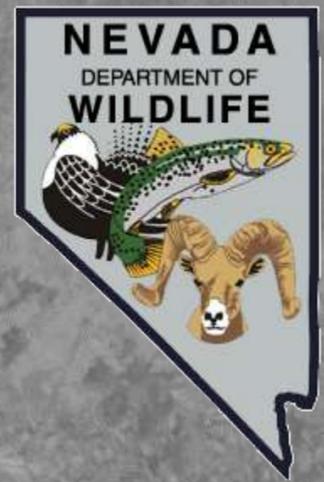


## 192 Buck Harvest & %4pts or better 1976-2019

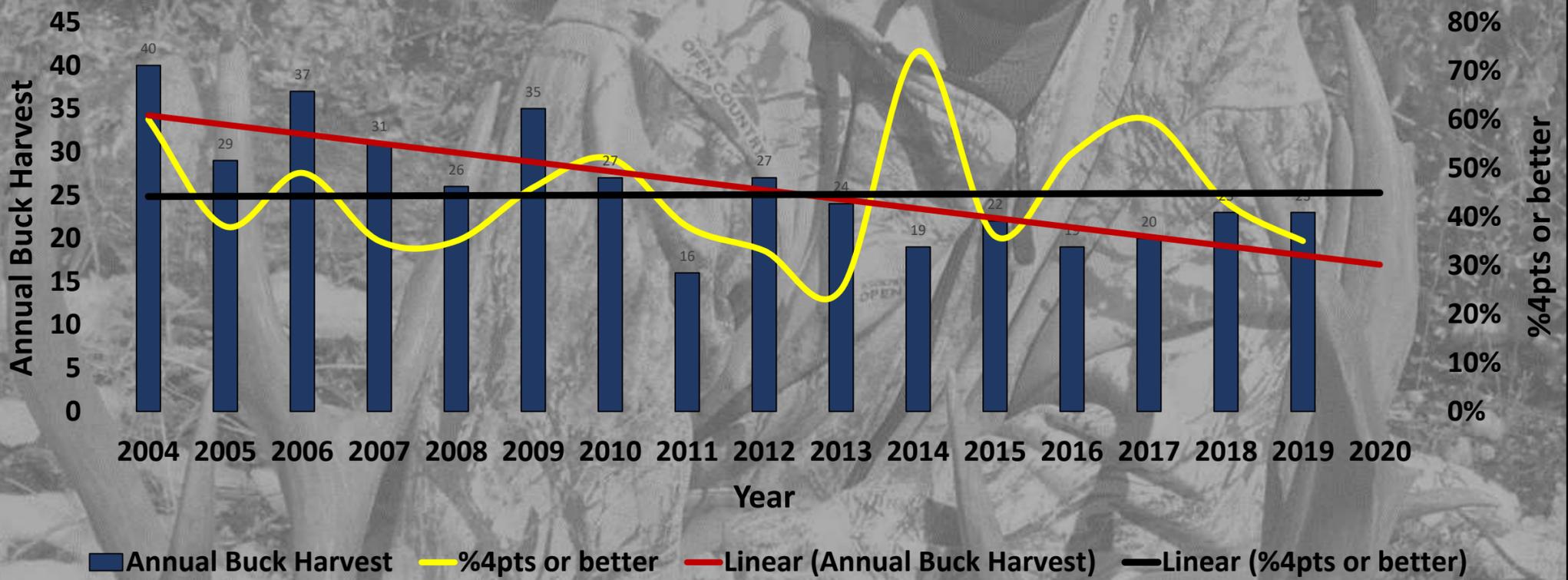


## 194-196 Buck Harvest & %4 pts or better 1976-2019

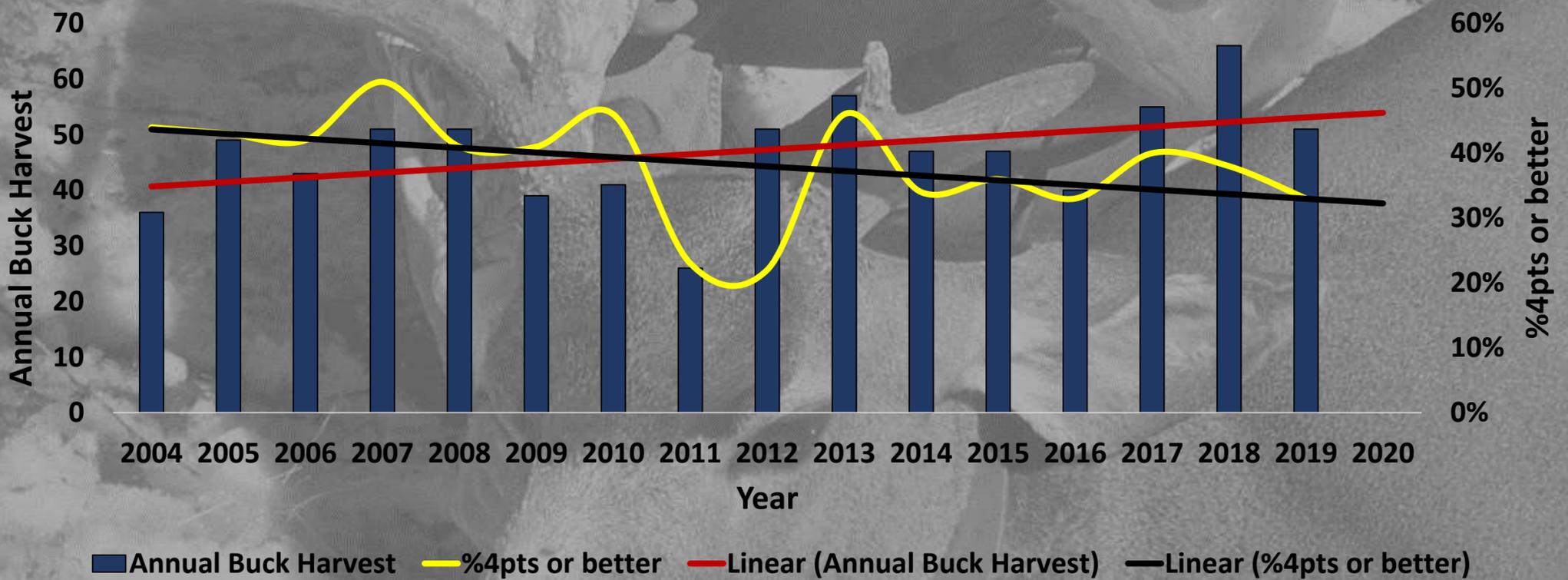


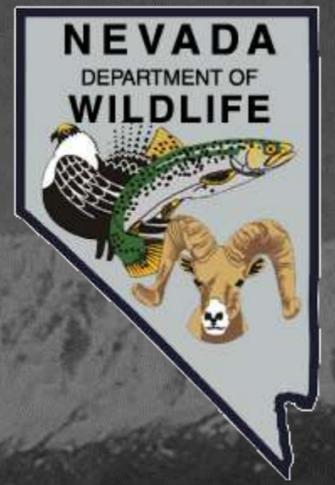


## 195 Buck Harvest 2004-2020



## 291 Buck Harvest 2004-2020



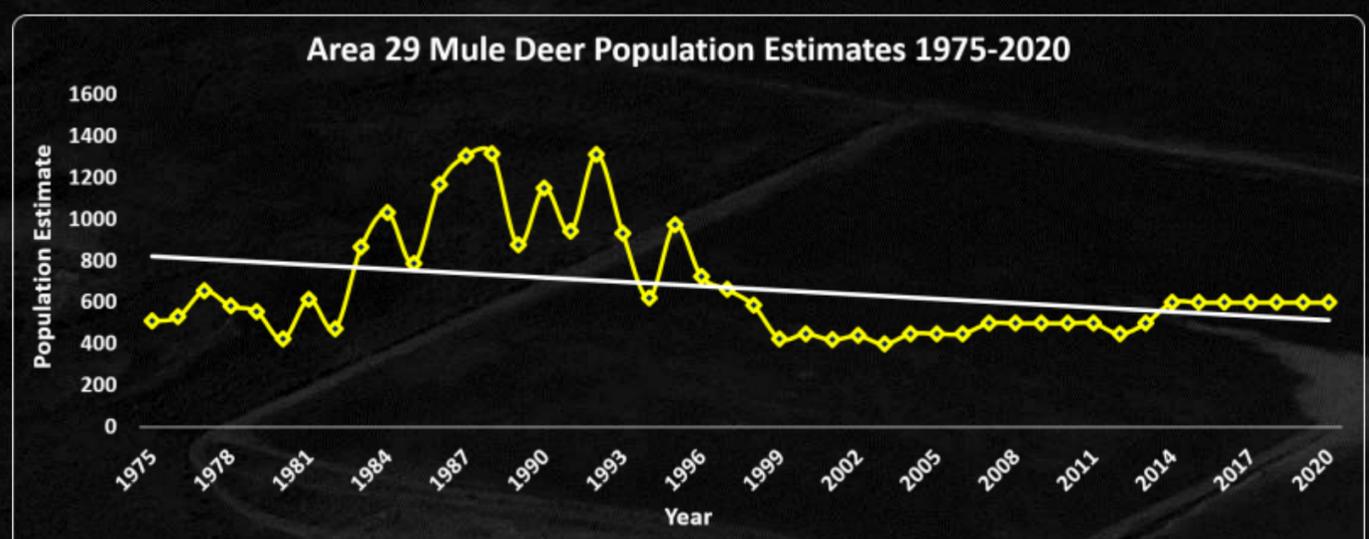
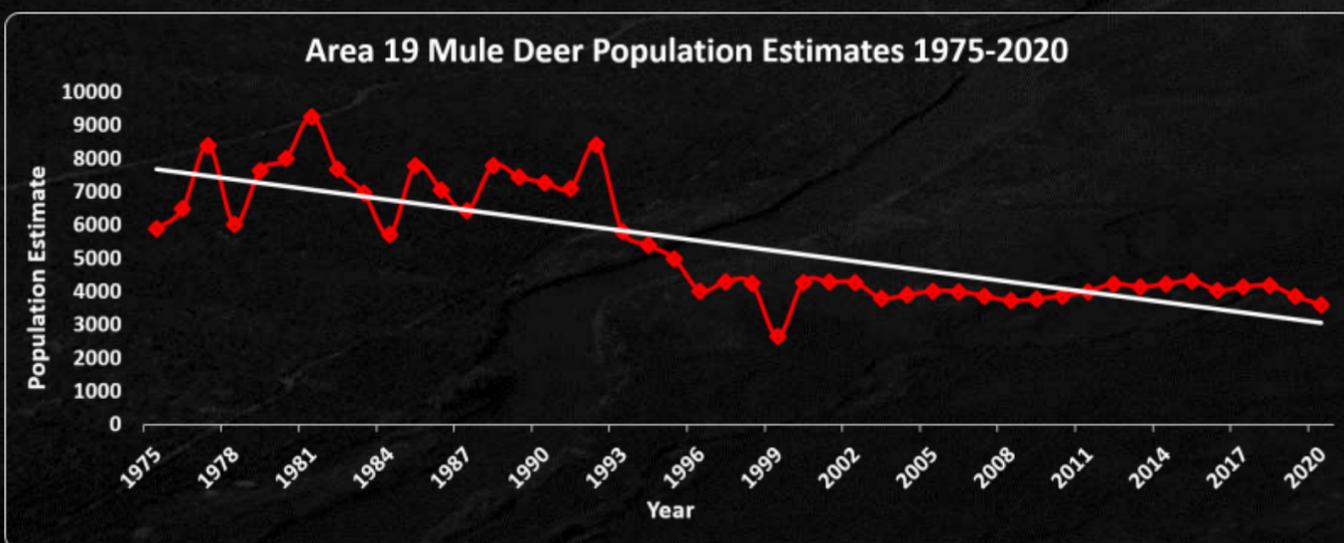


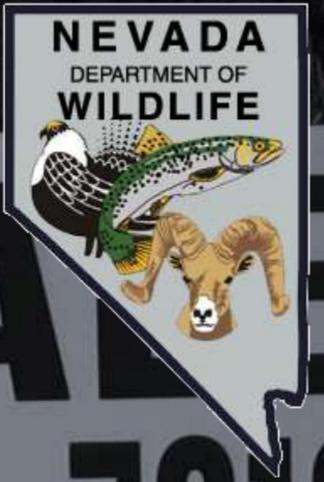
# • Major Challenges Impacting Deer

So, with stable or increasing trendlines/ratios over the long term, why has there been a steady decline in population numbers?

## Loss of habitat to:

- **Urbanization**
- **Fire/Habitat conversion**
- **Feral and Wild horses**





## Loss of habitat to:

- Urbanization

Human encroachment is by far the greatest threat to the Carson Front mule deer herds



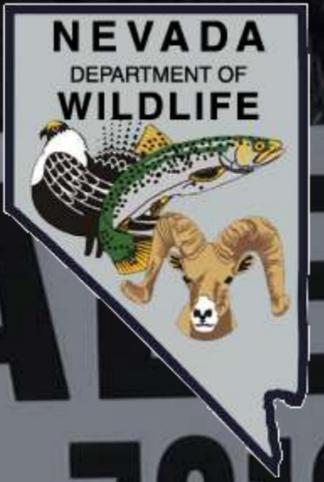
Urbanization of winter range results in a net loss of available habitat for resident and migrating mule deer.

### Examples include:

- West Carson
- Indian Hills
- Foothill corridor in Carson Valley
- Entire west Truckee Meadows – Thomas Creek, Arrow Creek, Caughlin Ranch, Belli Ranch, and Peavine Mtn/Somerset

Urbanization is not just new homes.

It includes increases in all forms of human disturbance - new manicured trail systems, trail runners, mountain bikers, dogs off-leash, UTV use

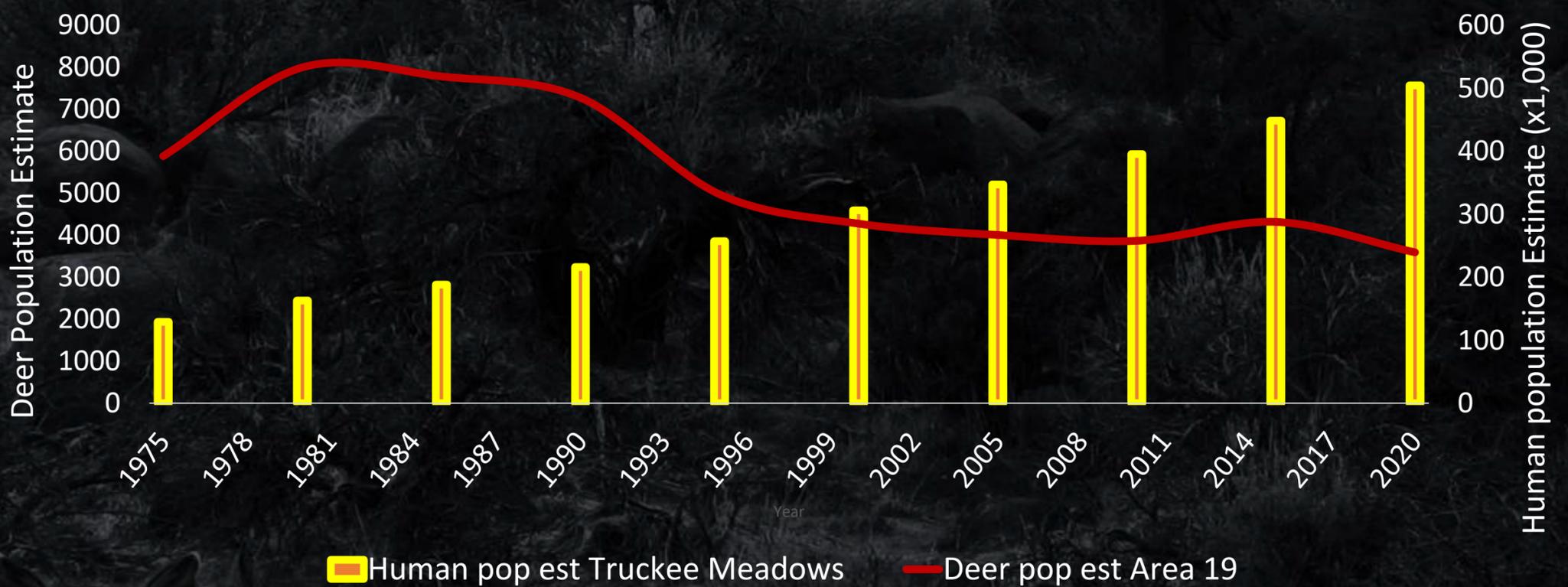


# Loss of habitat to:

- Urbanization

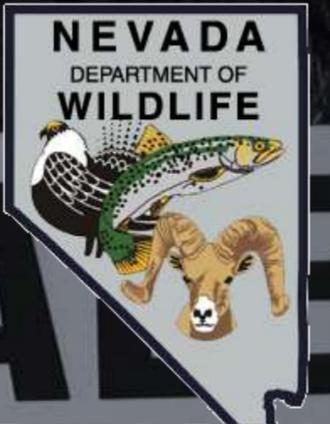


### Area 19 Mule Deer Population vs Human Population 1975-2020



**Urbanization is not just new homes.**

**It includes increases in all forms of human disturbance - new manicured trail systems, trail runners, mountain bikers, dogs off-leash, UTV use**



**FOR SALE**



**Peavine Mtn – unit 196 1985**



Topaz Ranch Estates



**FOR SALE**



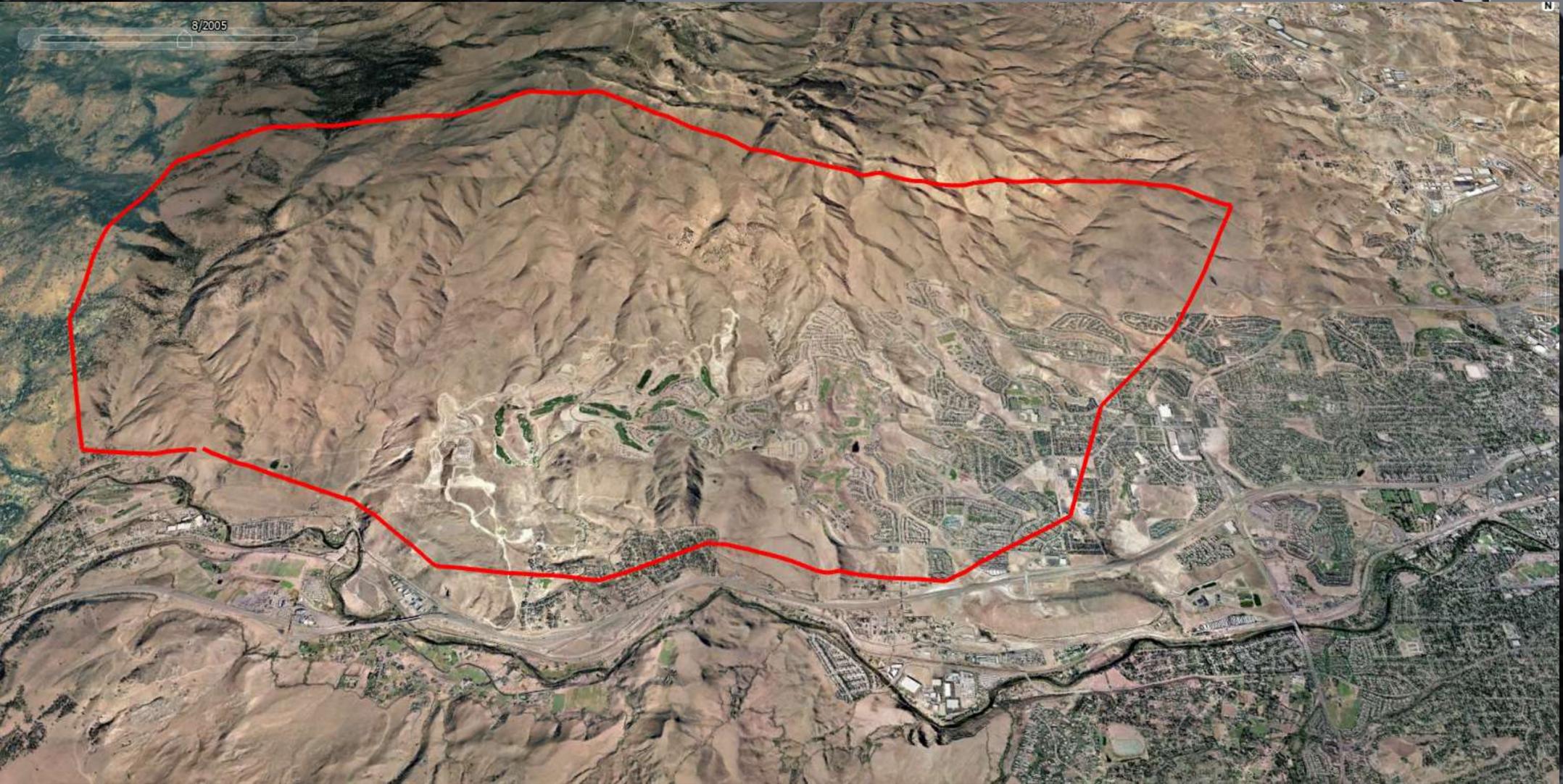
**Peavine Mtn – unit 196      1993**



Topaz Ranch Estates



**FOR SALE**



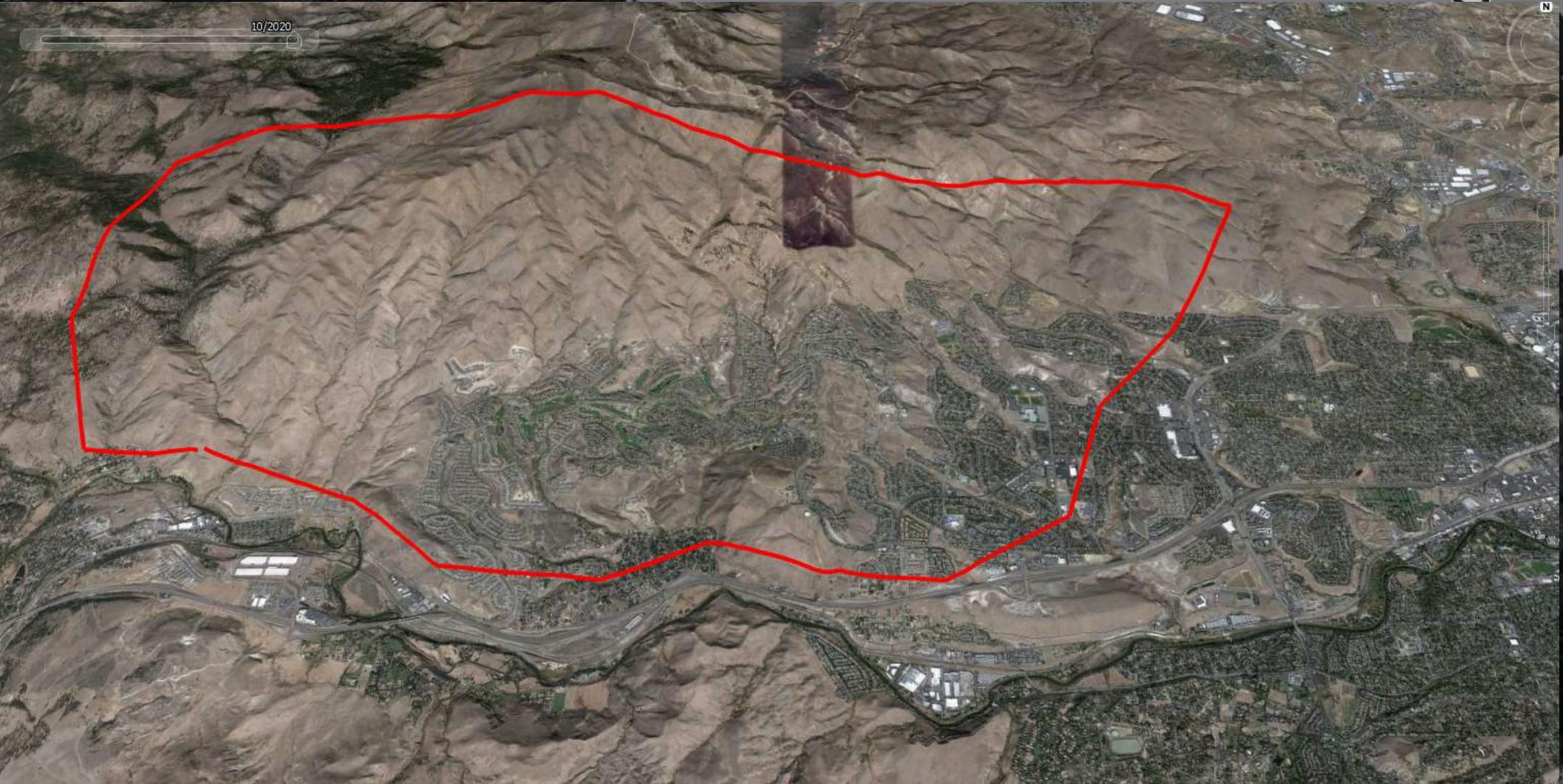
**Peavine Mtn – unit 196      2005**



Topaz Ranch Estates



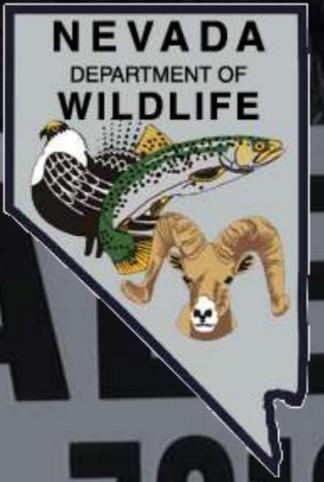
**FOR SALE**



**Peavine Mtn – unit 196      2020**



Topaz Ranch Estates

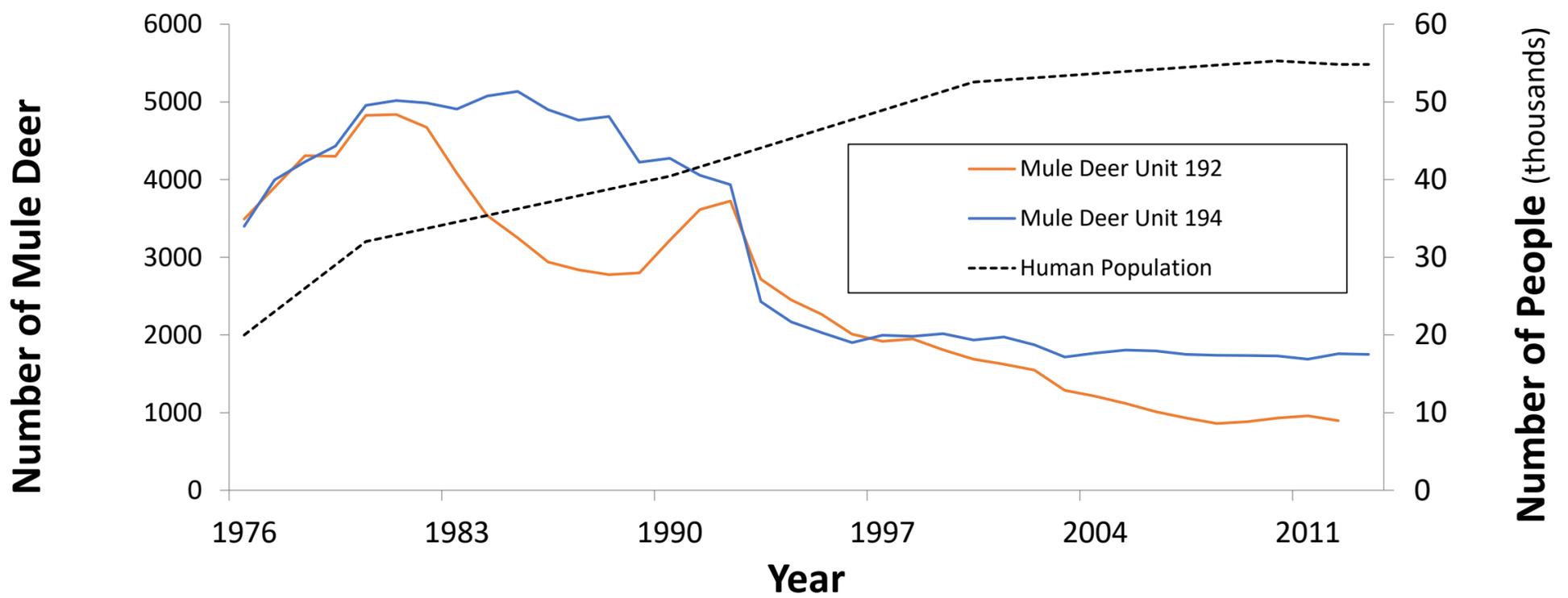


**Loss of habitat to:**

- **Urbanization**

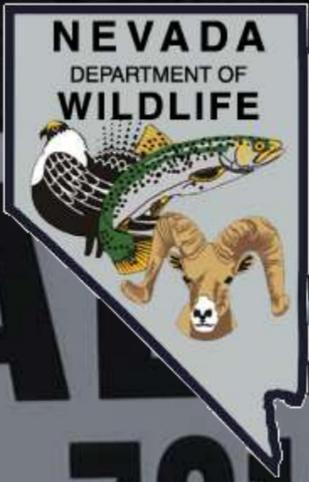


**Mule Deer Vs. Carson City Human Population  
1976 -2012**



Topaz Ranch Estates

**Urbanization is not just new homes.  
It includes increases in all forms of human disturbance - new manicured trail systems, trail runners, mountain bikers, dogs off-leash, UTV use**

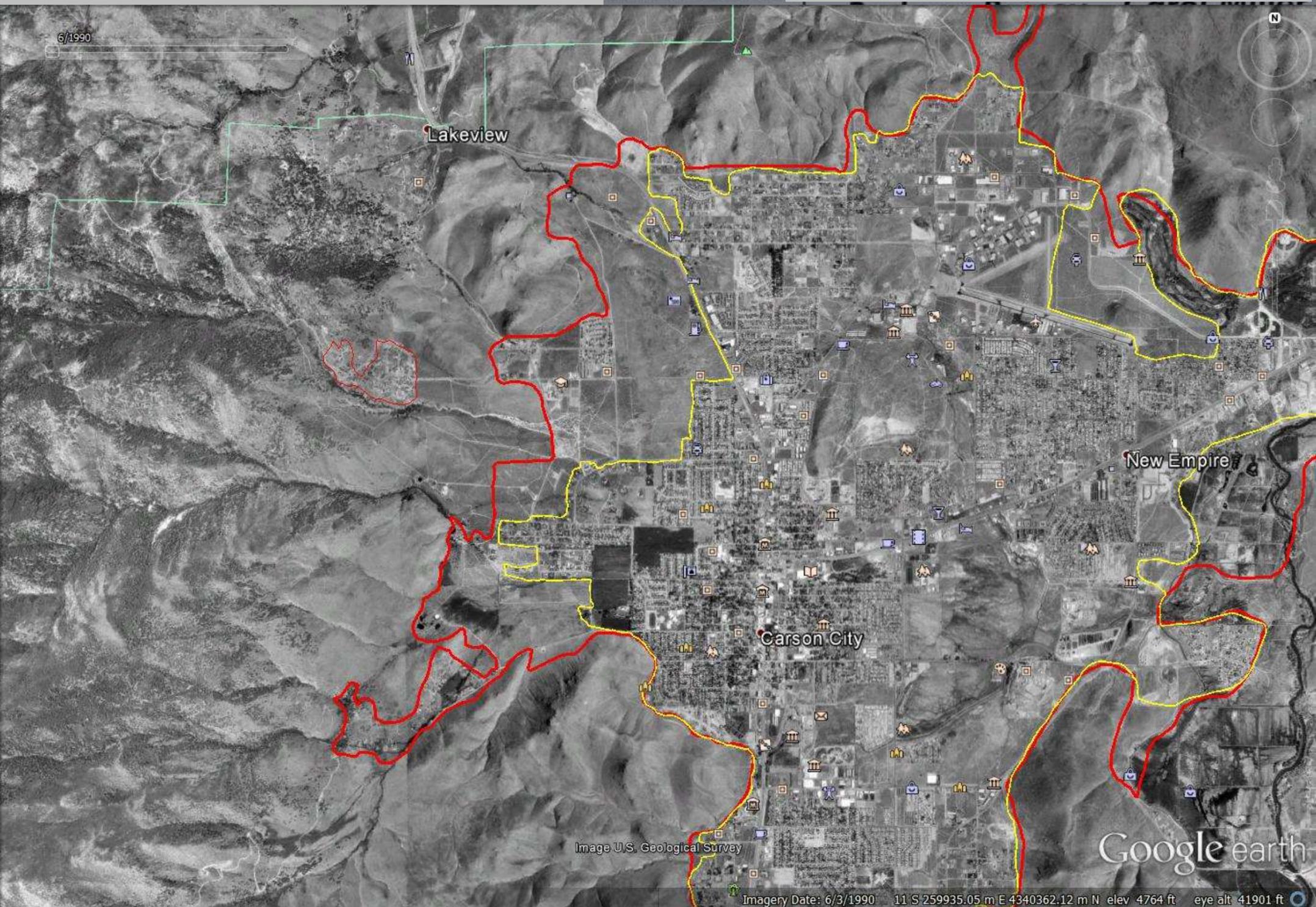


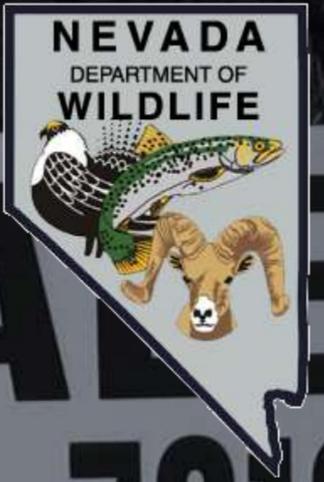
Loss of habitat to:  
• Urbanization



1990 Carson City Boundary

2012 Carson City Boundary





Loss of habitat to:  
• Urbanization



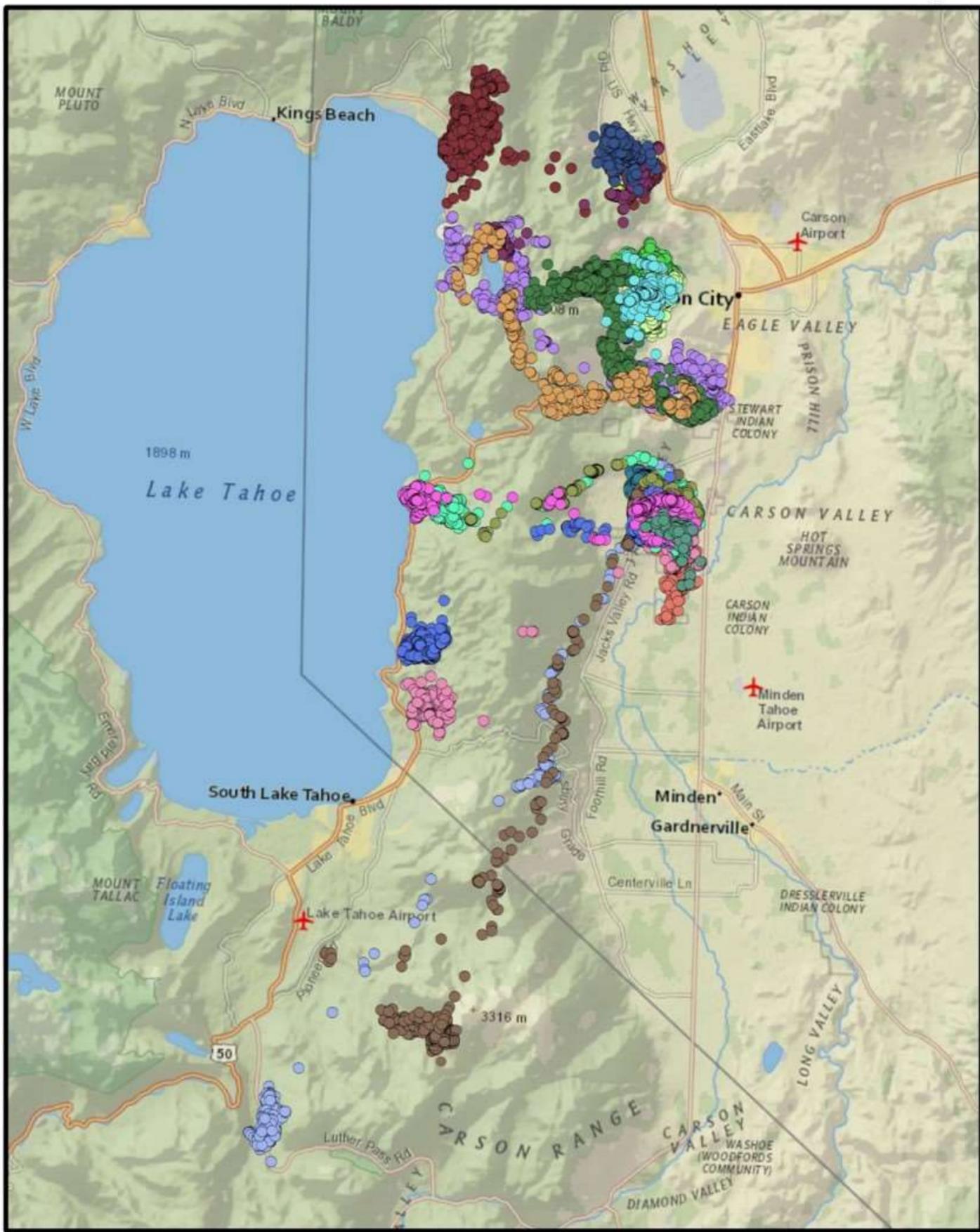
Mule Deer Crucial Winter Range

2012 Carson City Boundary





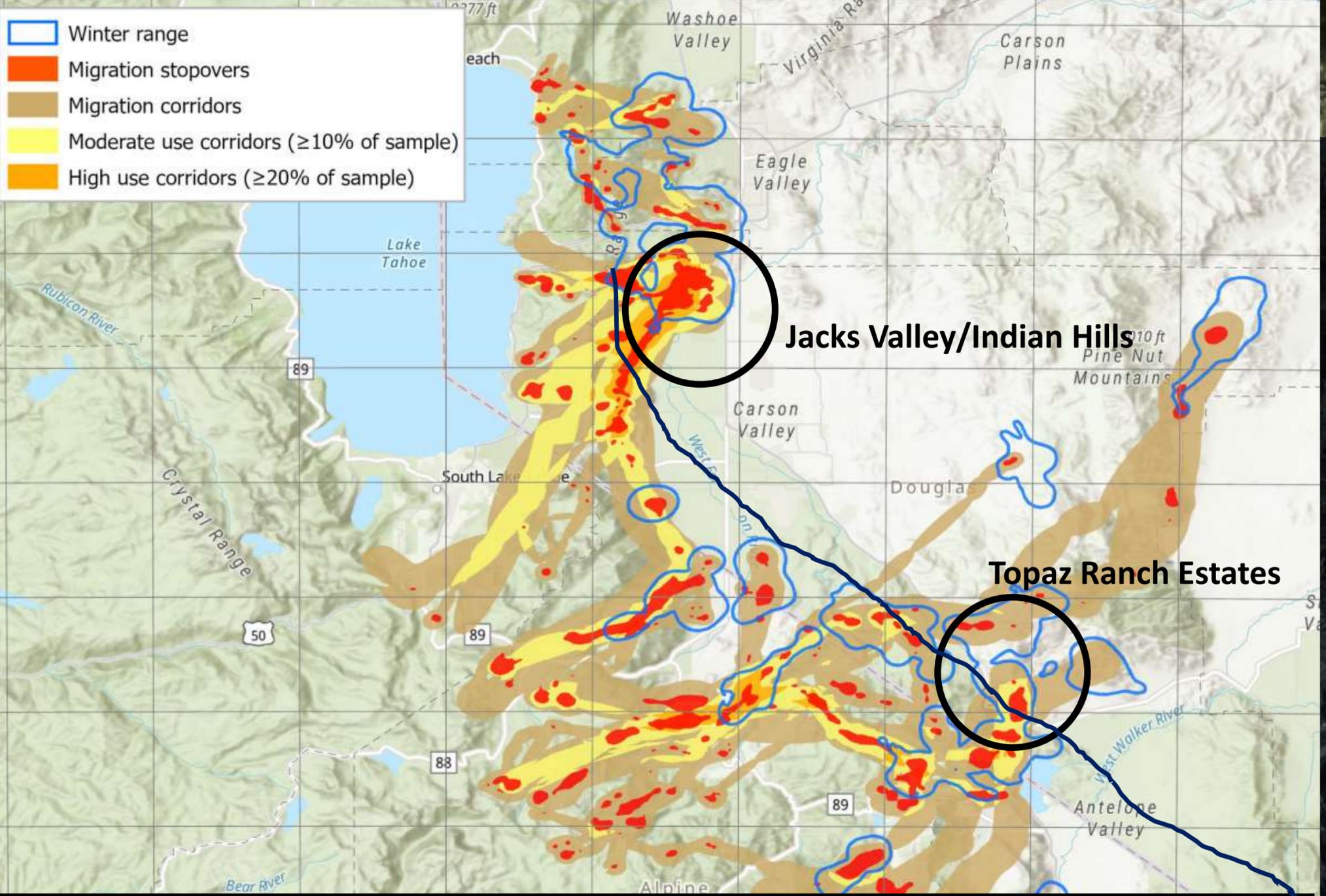
GPS Locations of Carson-Tahoe Mule Deer Study 



# Impacts to migration corridors are substantial



- Winter range
- Migration stopovers
- Migration corridors
- Moderate use corridors ( $\geq 10\%$  of sample)
- High use corridors ( $\geq 20\%$  of sample)

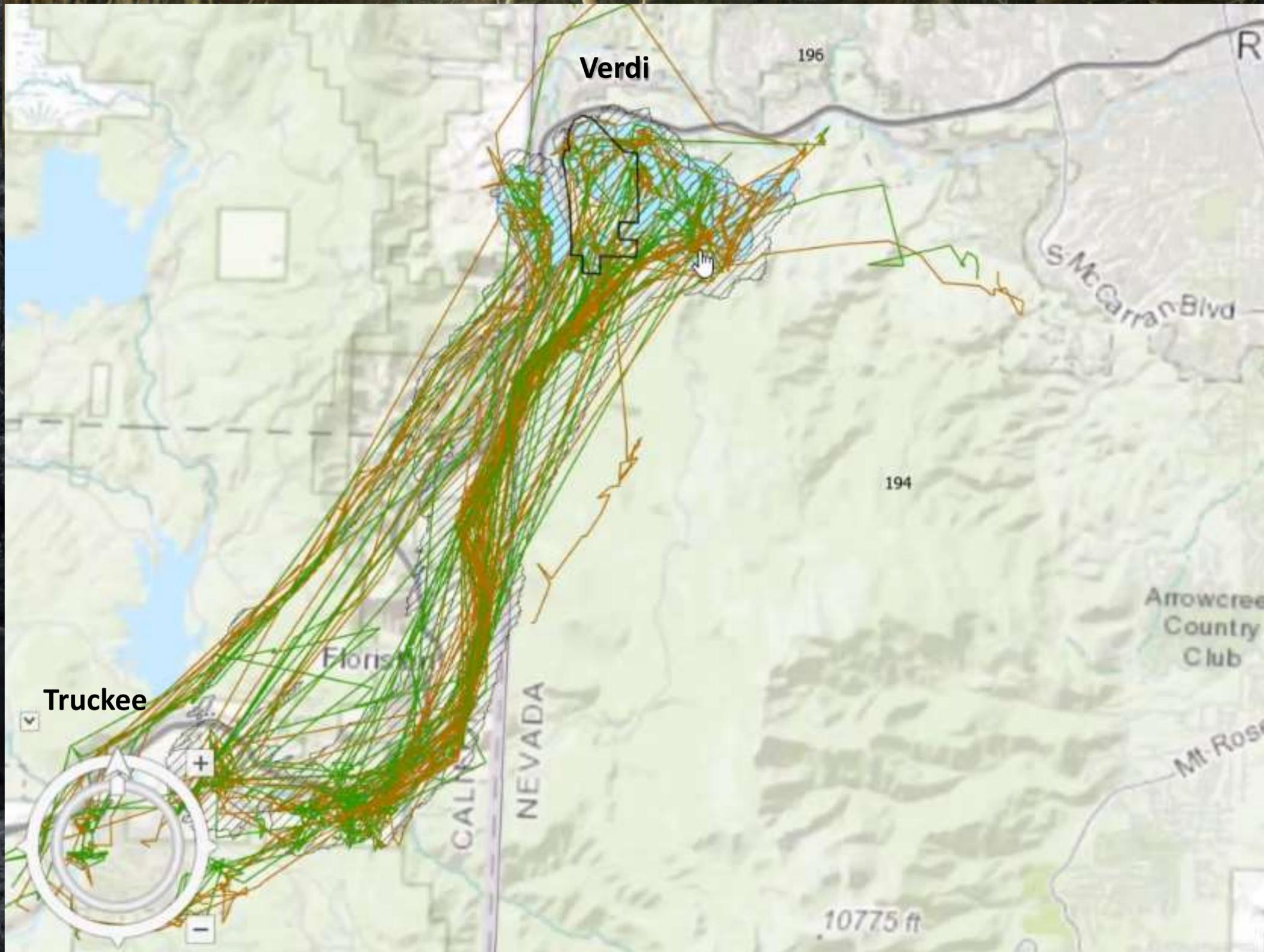


• Increased traffic, wider highways, concrete medians = mortalities

Carson River Herd (192/X8) Migration Corridors 2012-2019

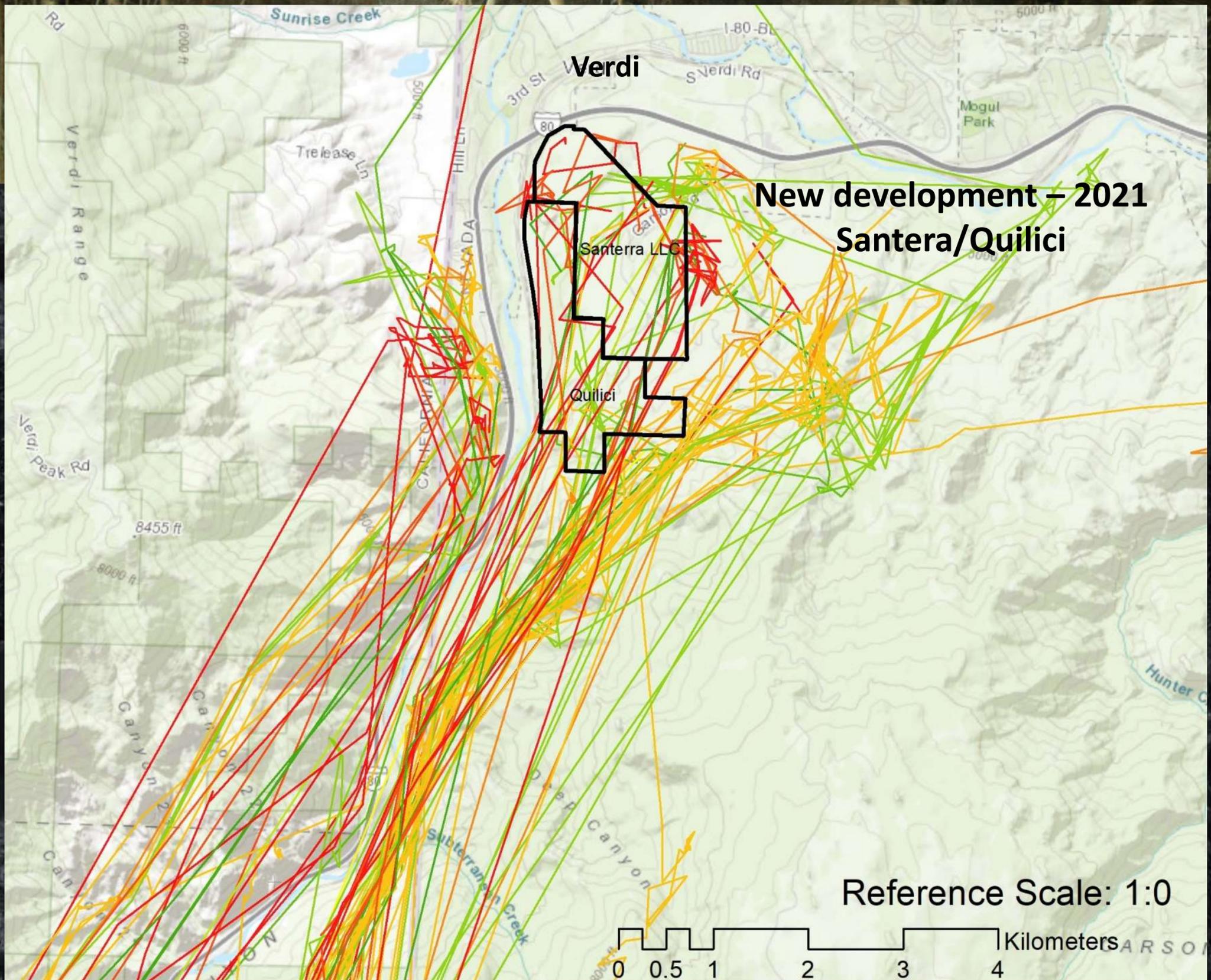


**Impacts to migration corridors are substantial**

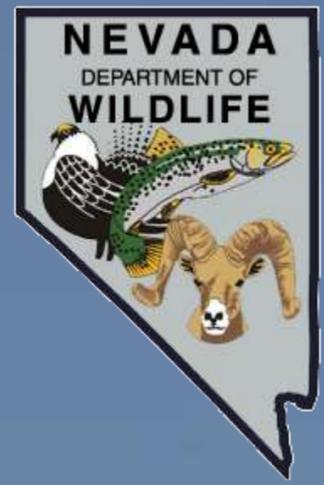


**Truckee-Verdi Herd (194-196/X7B) Migration Corridors 2009-2017**

# Impacts to migration corridors are substantial

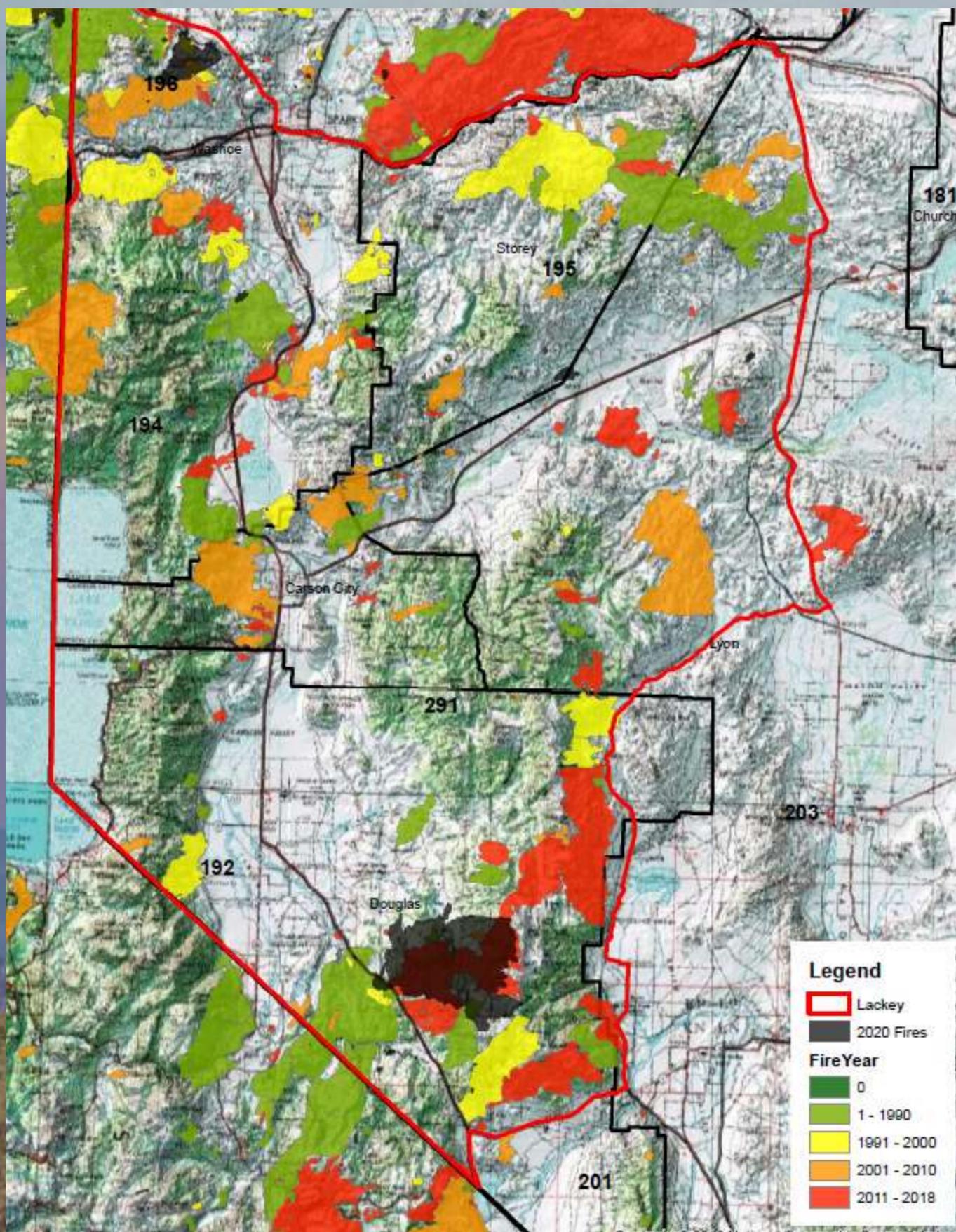


**Truckee-Verdi Herd (194-196/X7B) Migration Corridors 2009-2017**



## Loss of habitat to:

- Urbanization
  - Fire
- Since 2000, 53 fires have burned about 99,000 acres in Area 29
  - Some of the more significant fires in Area 19 have burned approximately 24,000 acres

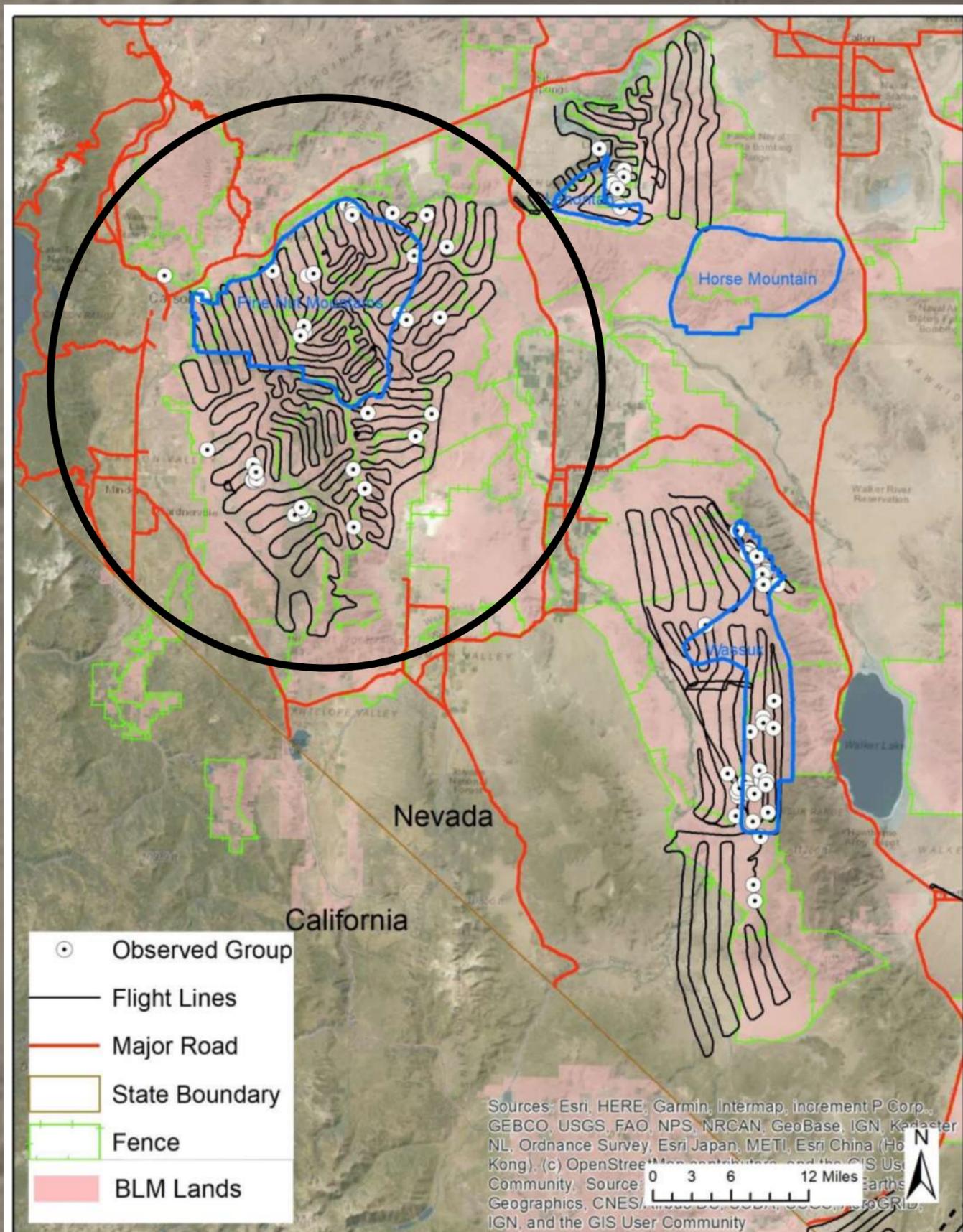




## Loss of habitat to:

- Urbanization
- Fire
- Feral and Wild horses – habitat destruction

The 2020 BLM aerial survey estimate in the Pinenut Mountains was 182 Wild horses (survey area)



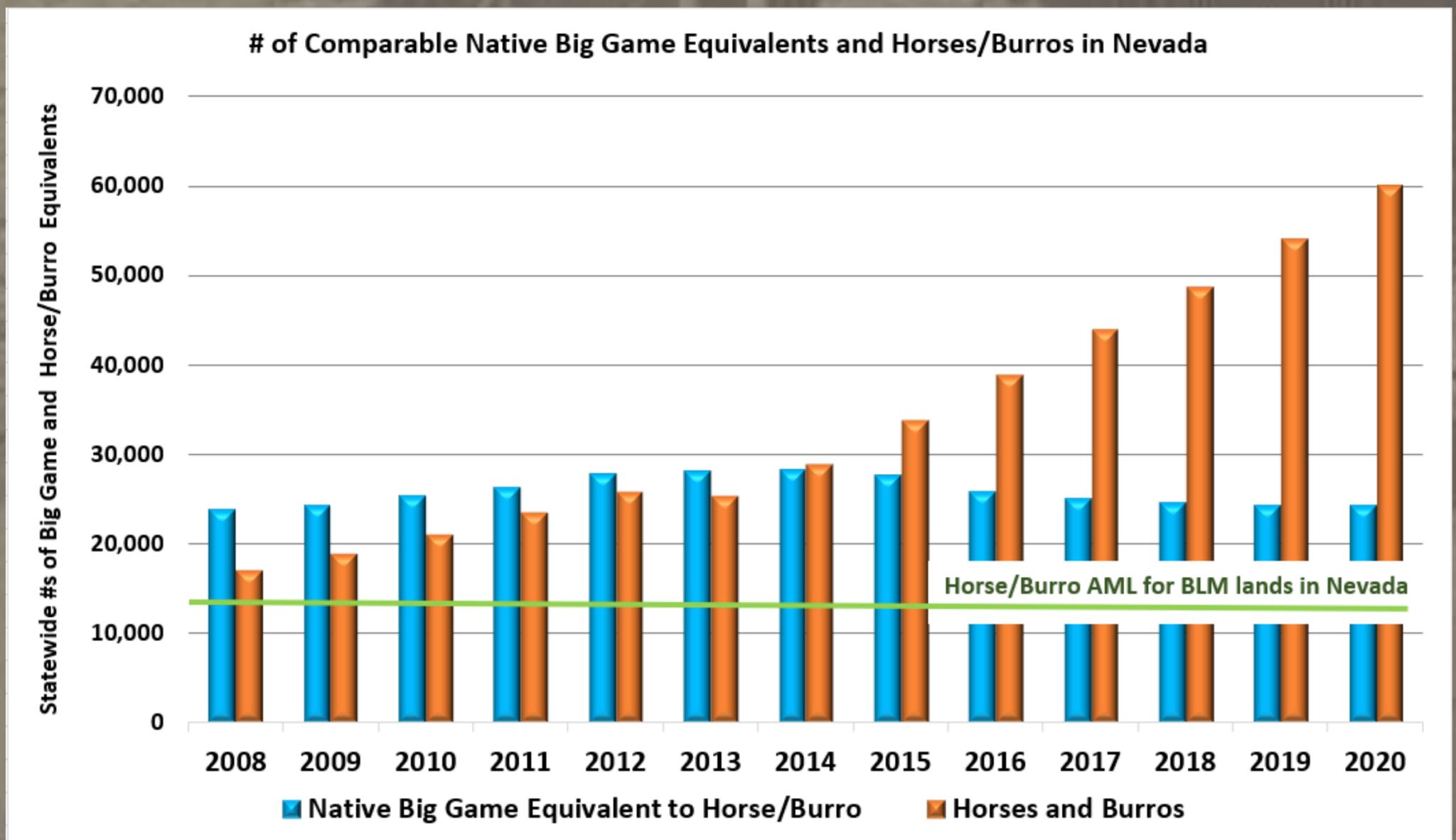


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52,300 horses and burros on BLM lands - 310% over AML (12,800) with 6,700 horses living outside of established HMAs





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Big Game Species	2020 Pop Est	avg body wt (male & female)	# wild animals/horse	population equivalent	forage/day lbs	water consume/day
Pronghorn	29,500	105	9	3,278	3.4	working on them
Mule Deer	92,000	135	7	13,143	4.3	
Bighorn Sheep	12,200	120	7.7	1,584	3.8	
Elk	13,000	450	2.1	6,190	12.0	
<b>Total Native</b>	<b>146,700</b>	<b>155</b>		<b>24,196</b>		
Horses/Burros	<b>60,000</b>	<b>819</b>			<b>20.0</b>	
*# of animals equal to a single horse in terms of forage consumption and water intake						
in 2020 there is 2.5 times more horse biomass in Nevada than all the native ungulates combined						
<b>2020 Numbers on BLM lands in Nevada</b>						



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- Urbanization
- Fire
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Mule Deer	92,000	135	7	13,143	4.3	
Bighorn Sheep	12,200	120	7.7	1,584	3.8	
Elk	13,000	450	2.1	6,190	12.0	
Total Native	146,700	155		24,196		
Horses/Burros	60,000	819			20.0	
*# of animals equal to a single horse in terms of forage consumption and water intake						
in 2020 there is 2.5 times more horse biomass in Nevada than all the native ungulates combined						
<b>2020 Numbers on BLM lands in Nevada</b>						

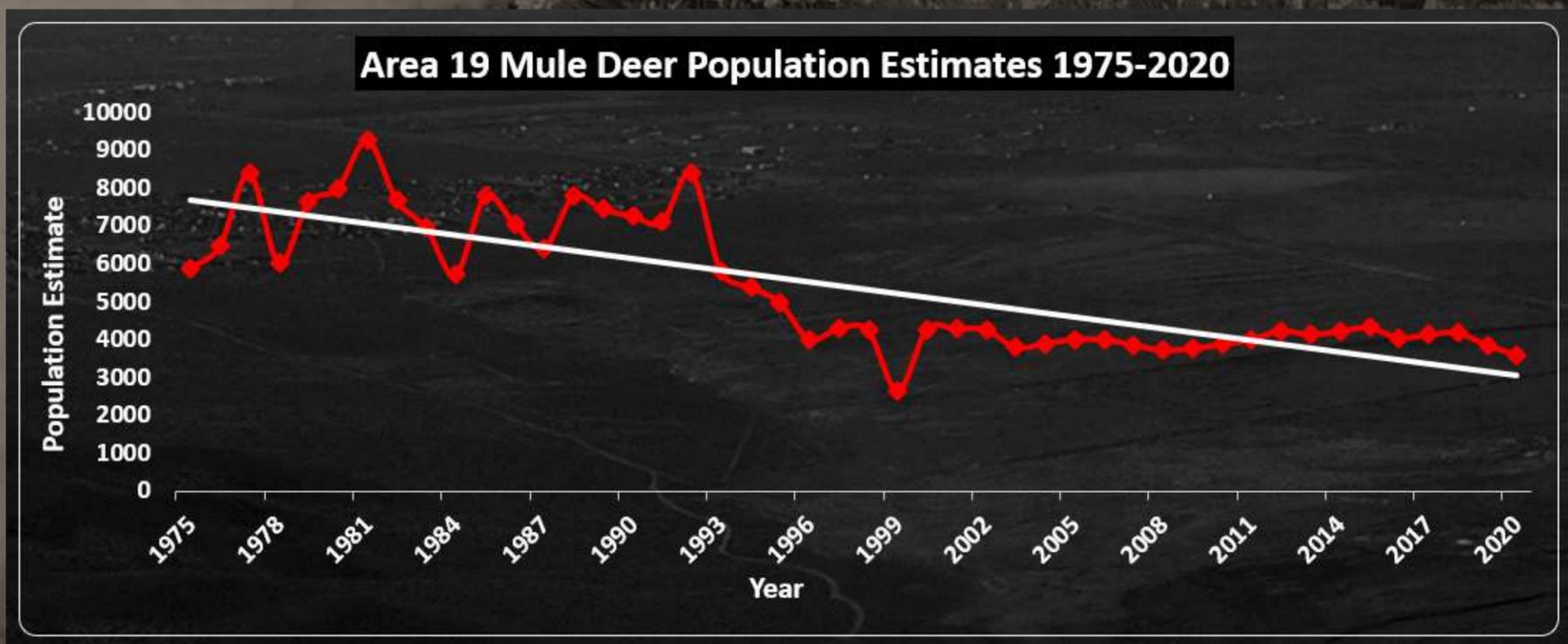
Nevada Department of Agriculture estimate for the Virginia Range (Unit 195) is 3,000+ feral horses.

The bighorn sheep equivalent would be 18,000 sheep!



Predation is not considered a limiting factor for mule deer populations in Areas 19 or 29

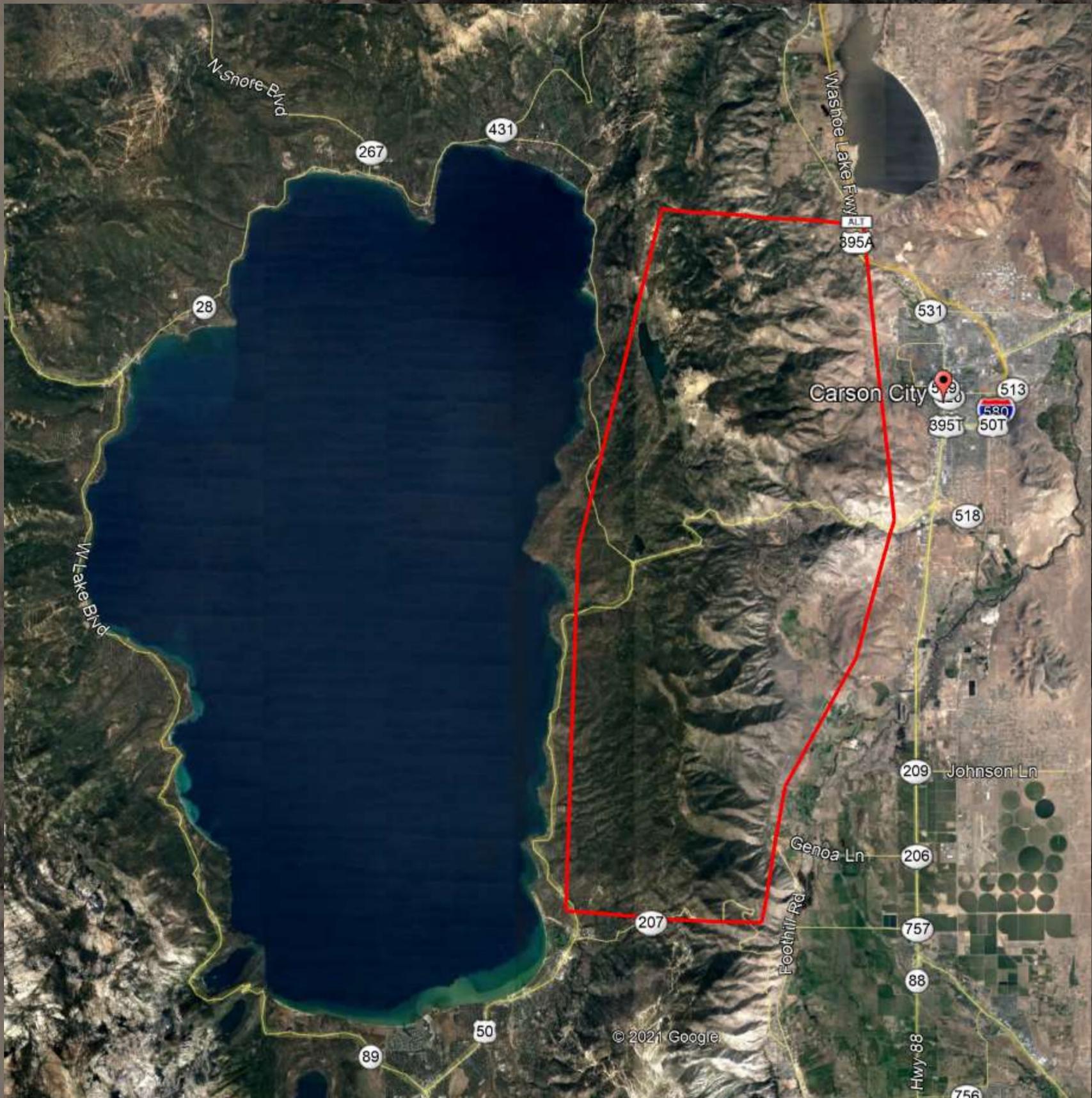
- Mule deer populations have been somewhat stable over the last several years





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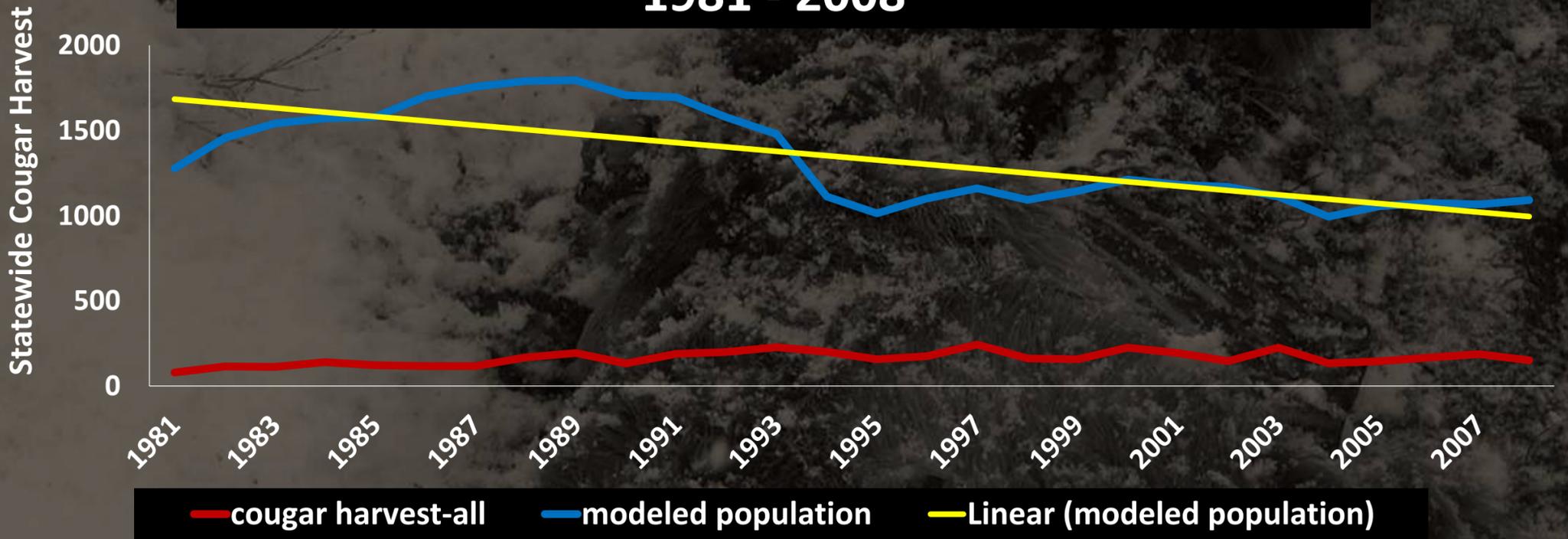
- Mule deer populations have been somewhat stable over the last several years
- Hunter harvest of cougars is low – cougar densities are likely low ( $\leq 2$  adults/100km<sup>2</sup>)





Cougar populations lag prey populations ~ 3 years

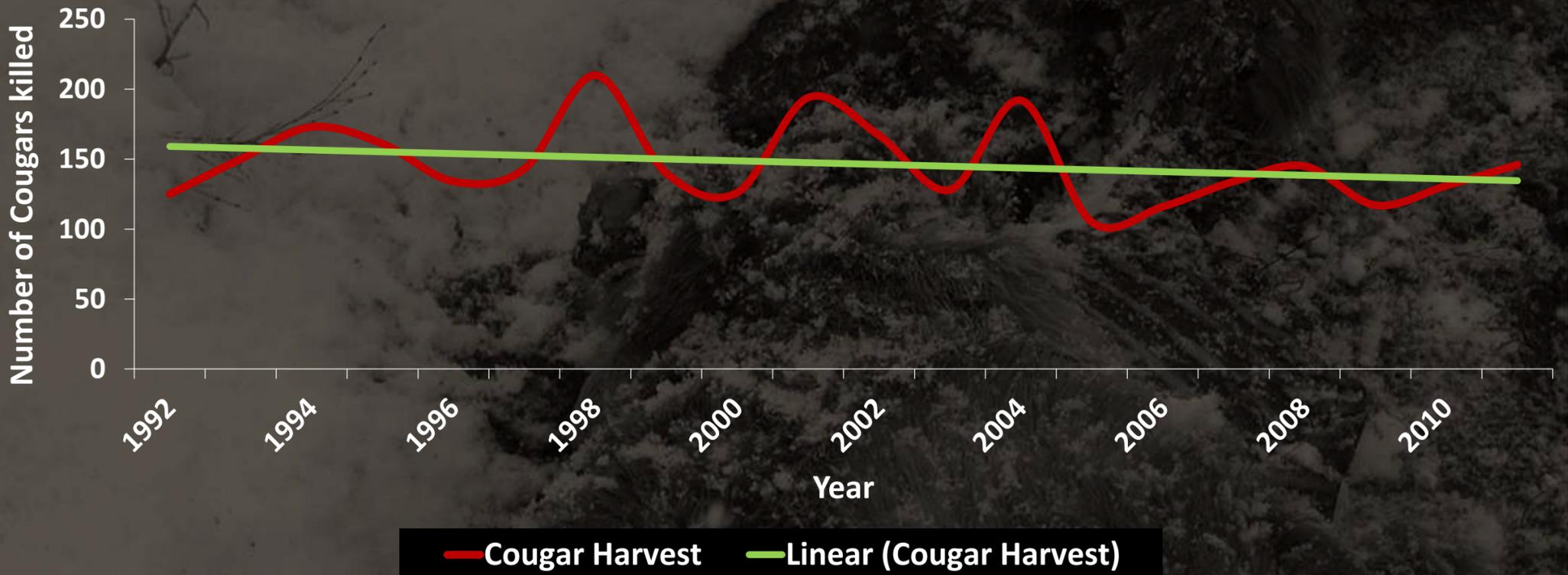
### Statewide Cougar Harvest with Modeled Population 1981 - 2008



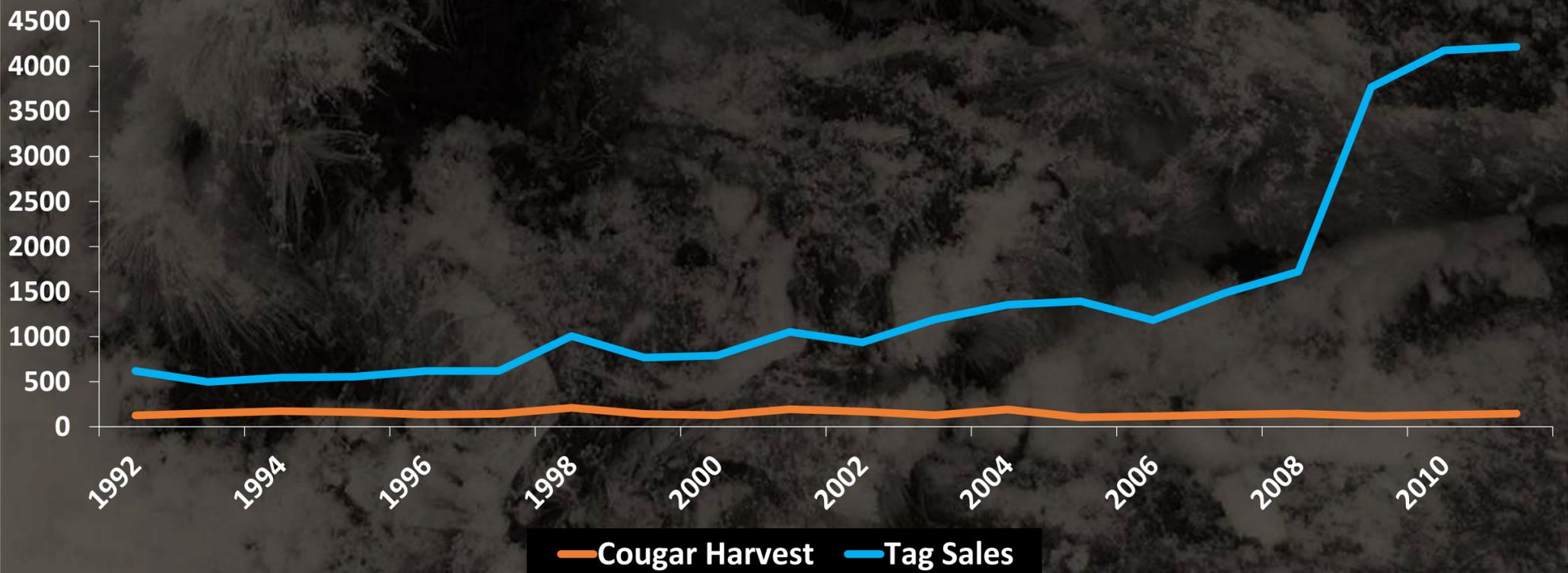
05-05-2016 21:58:49



## Statewide Cougar Harvest 1992-2011



## Statewide Cougar Harvest & Tag Sales 1992-2011





- Past and Current Habitat Projects

Habitat projects include understory restoration, conifer removal, riparian restoration, and stream bank stabilization

Since mid-2000s NDOW has contributed about \$883,000 through grants towards restoration of roughly 11,000 acres in 19 & 29

- Pinenut Land Health Project - began unofficially in 2007 with a spring status flight funded by the Carson Valley Chukar Club. The goal was to identify natural springs/meadows that had the potential of being released with conifer thinning. Total of almost 8,000 acres of conifers removed to date

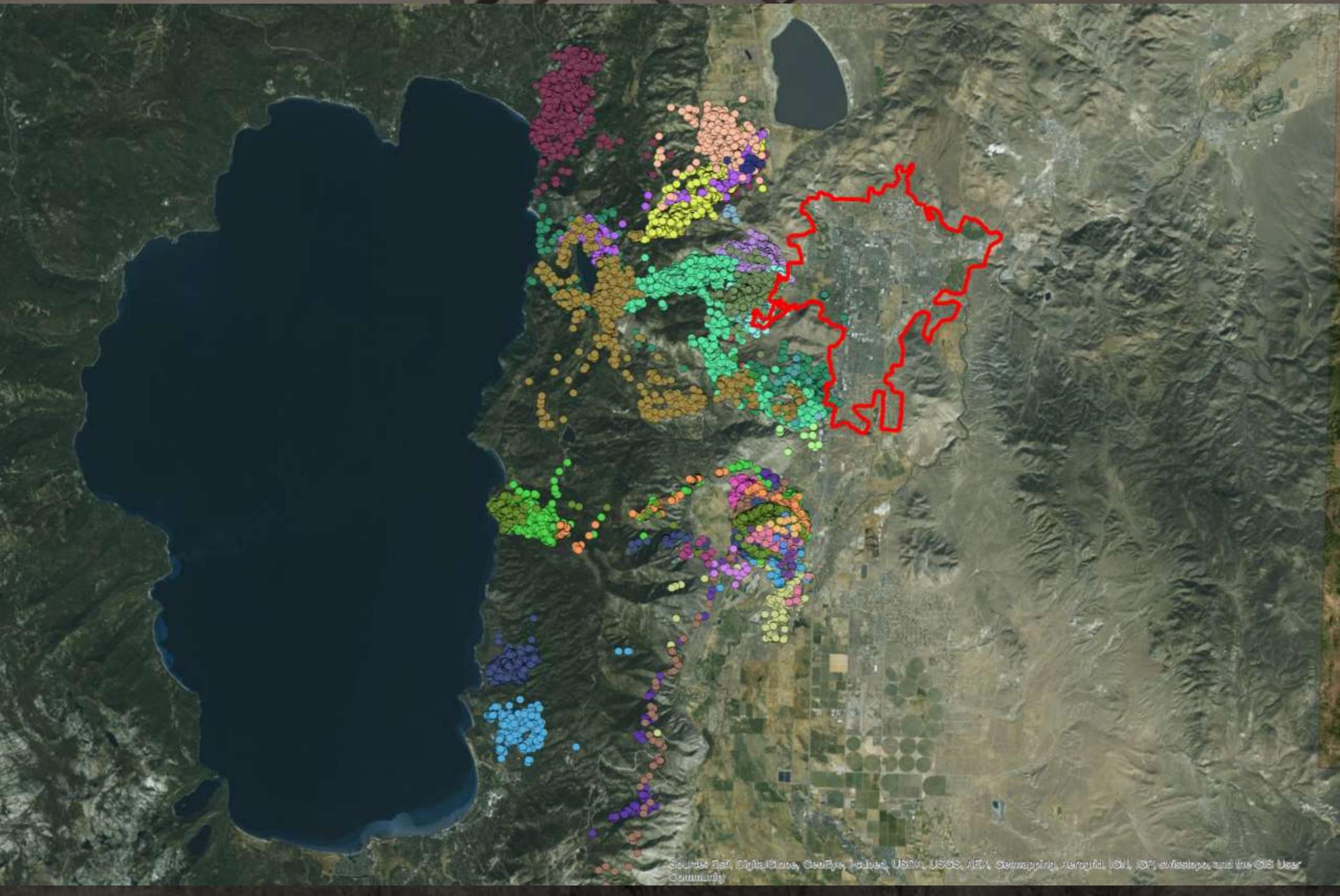
JW Meadows (east side at Sunrise Pass road) was the first project area. 740 acres hand-thinned to open the meadow (reduce overstory), primarily for Sagegrouse.





- **Research Projects**

Between 2009-2017 a total of 204 deer were collared in Area 19 and 15 were collared in Area 29



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aergrid, IGN, iGP, swisstopo, and the GIS User Community



- **Research Projects**

Between 2009-2017 a total of 204 deer were collared in Area 19 and 15 were collared in Area 29

Deer were captured via use of helicopter crews and net-guns, and then slung to basecamp for processing by biologists and UNR researchers/students





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Deer were released on-site, and collars were followed up post-release for multiple years to document mortality





Cause specific mortality for Carson Range deer

### Carson Study Cause of Mule Deer Mortalities

