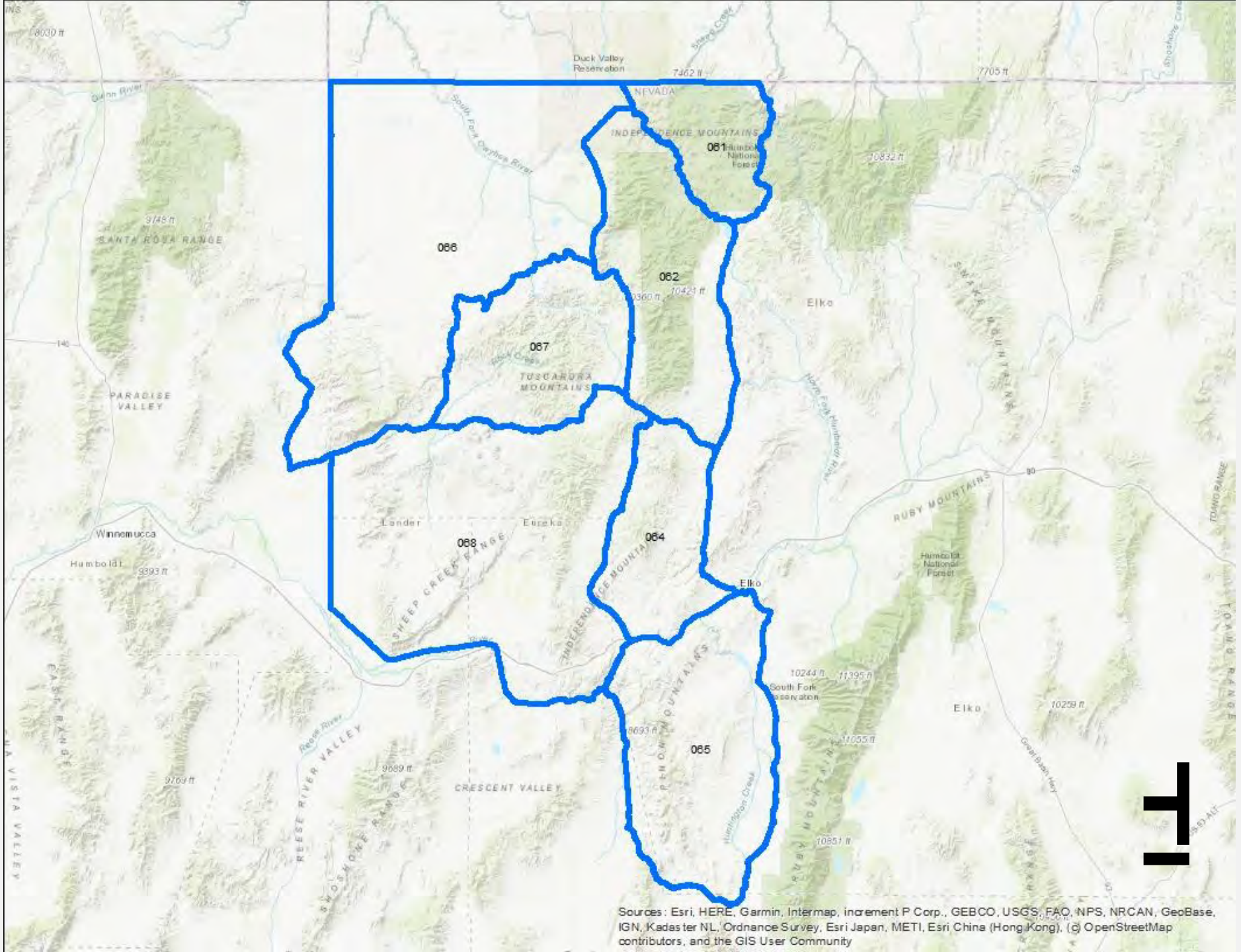
MULE DEER ENHANCEMENT PROGRAM HERD UPDATE – 4/21/2022

Area 6

PROGRAM INTENT

- The Mule Deer Enhancement Plan is a team process intended to identify the major Limiting Factors impacting mule deer and to guide efforts in improving and maintaining mule deer populations and habitat. (061,062,064,065,066,067,068).
- Identify and Prioritize Limiting Factors,
- Perform Needs Assessment For Addressing Each Factor,
- Develop Outcomes To Monitor Success.



NEVADA DEPARTMENT OF WILDLIFE

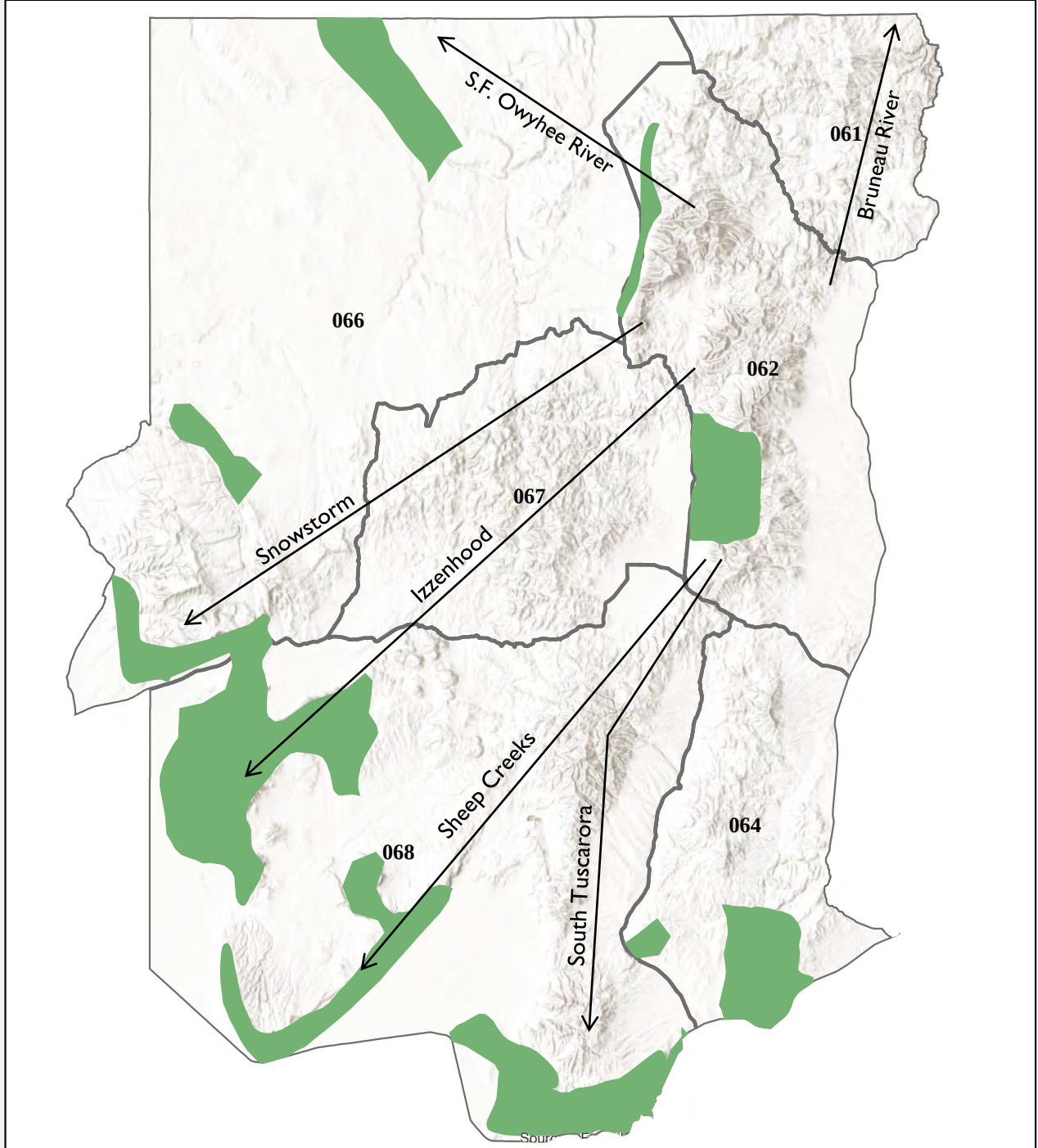
MULE DEER MIGRATION ROUTES/CORRIDORS

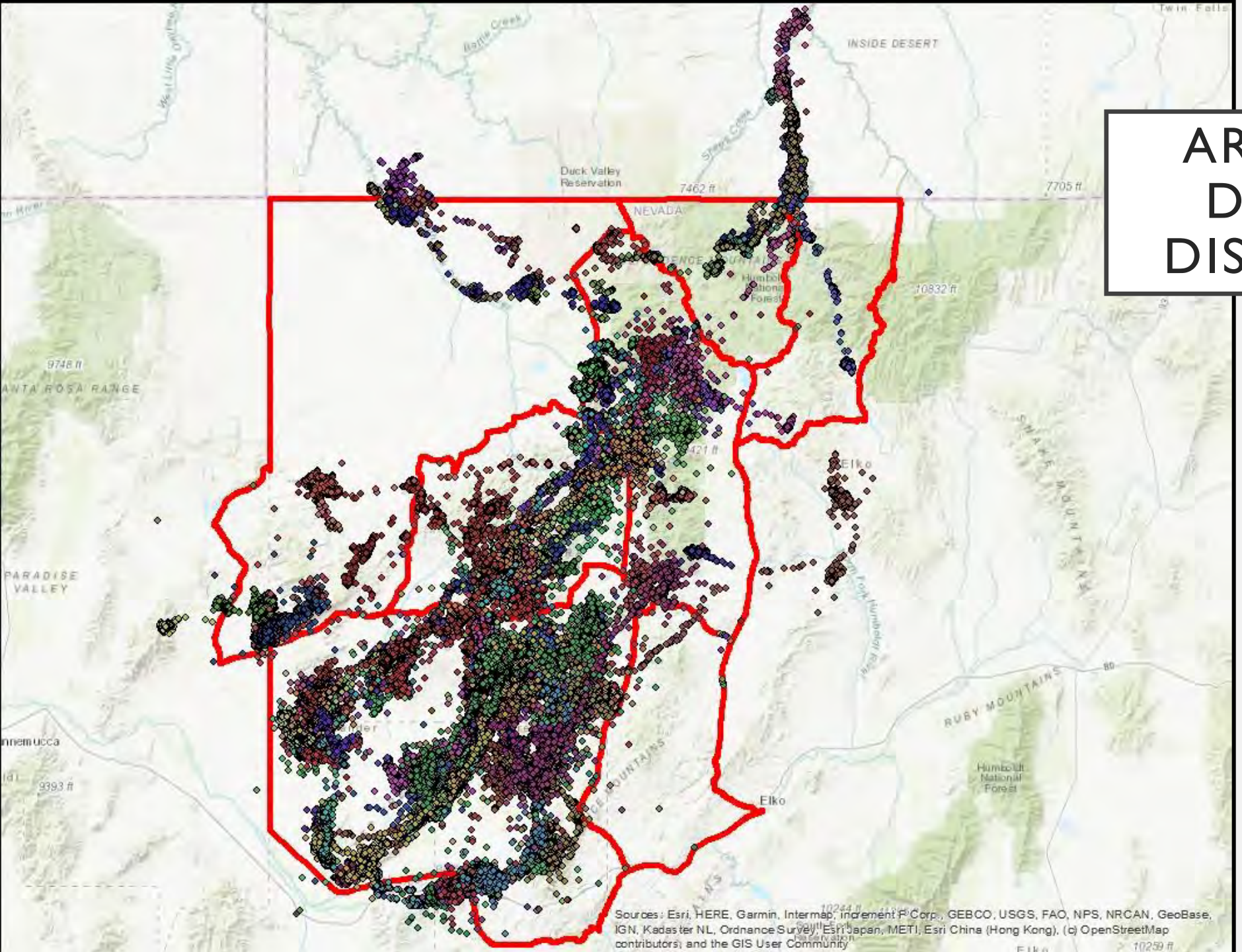
There Are Six Main Migration Routes:

- South Tuscaroras,
- Sheep Creeks,
- Izzenhoods,
- Snowstorms,
- South Fork Owyhee River,
- Bruneau River

- Currently have 54 collared mule deer does active on the landscape

However, there are deer sub-herds that don't make long migrations and winter near their summer ranges just at lower elevations





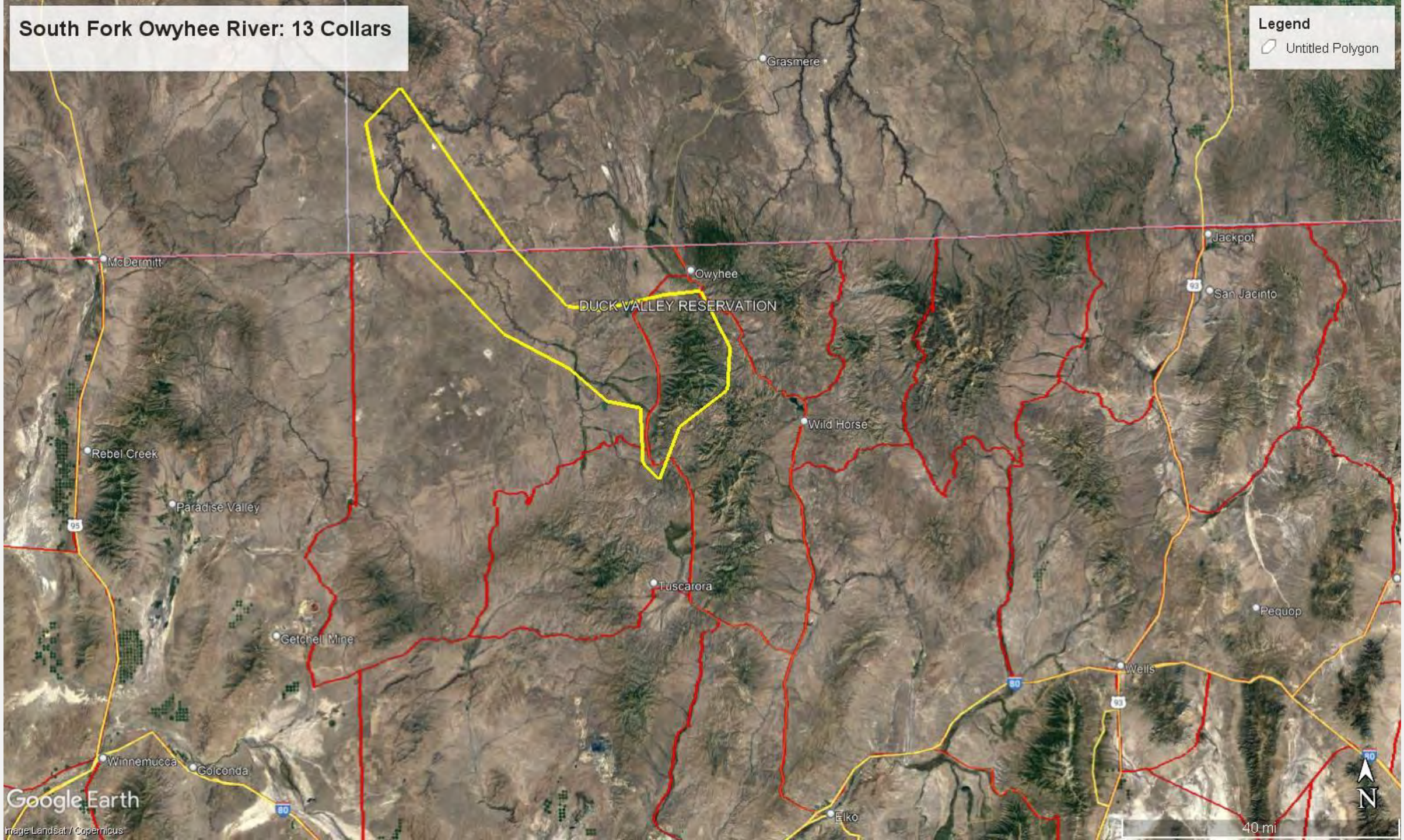
AREA 6 MULE DEER HERD DISTRIBUTION

Sheep Creeks: 7 Collars
Legend
Untitled Polygon
Tuscarora
Getchell Mine
Valmy
Battle Mountain
Beowawe
Primeaux
Carlin
Elko
Ryndon
Halleck
Spring Creek
South Fork
River Ran
Google Earth
Image Landsat / Copernicus
N
20 mi

Izzenhood: 5 Collars
Legend
Untitled Polygon
Wild Horse
Tuscarora
Getchell Mine
Welcome
Wells
River Ranch
Ryndon
Halleck
Elko
Spring Creek
Carlin
Valmy
Primeaux
Battle Mountain
South Fork
Google Earth
30 mi
N

Snowstorms: 9 Collars
Legend
Untitled Polygon
Wild Horse
Tuscarora
Getchell Mine
Golconda
Valmy
Welcome
Wells
River Ranch
Ryndon
Halleck
Elko
Spring Creek
Carlin
South Fork
226
225
227
229
230
232
789
80
93
Google Earth
Image Landsat / Copernicus
30 mi
N

Marsh Creek Bench: 8 Collars
Legend
Untitled Polygon
Wild Horse
Tuscarora
Welcome
River Ranch
Halleck
Ryndon
Elko
226
225
230
232
227
80
Google Earth
Image Landsat / Copernicus
20 mi
N


South Fork Owyhee River: 13 Collars
Legend
Untitled Polygon
Grasmere
McDermitt
Owyhee
DUCK VALLEY RESERVATION
Jackpot
San Jacinto
Wild Horse
Rebel Creek
Paradise Valley
Tuscarora
Getchell Mine
Pequop
Wells
Winnemucca
Golconda
Elko
Google Earth
Image Landsat / Copernicus
40 mi
N

Bruneau River: 12 Collars
Legend
Untitled Polygon
Grasmere
McDermitt
Owyhee
DUCK VALLEY RESERVATION
Jackpot
San Jacinto
Wild Horse
Rebel Creek
Paradise Valley
Tuscarora
Getchell Mine
Montello
Pequop
Wells
Winnemucca
Golconda
Elko
Google Earth
Image Landsat / Copernicus
40 mi
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SURVEY

POST SEASON SURVEY OBJECTIVES
FALL SURVEYS

Bucks:100Does:Fawns

Production Rates of females and the **Sex Ratio** of the herd.

Production rates provide information on herd health and are a variable of population change.

Post Season Buck Ratios determine future harvest objectives (Quotas)

- **30Bucks:100Does Statewide Objective**

FALL SURVEY

	SAMPLE				RATIOS			
YEAR	BUCKS	DOES	FAWNS	TOTAL	BUCK:DOE	DOE:DOE	FWN:DOE	FWN:AD
2015	936	2535	1662	5133	0.37	1	0.66	0.48
2016	1032	3220	2243	6495	0.32	1	0.70	0.53
2017	0	0	0	0		1	-	
2018	453	1299	931	2683	0.35	1	0.72	0.53
2019	330	942	648	1920	0.35	1	0.69	0.51
2020	371	1198	831	2400	0.31	1	0.69	0.53
2021	378	1004	668	2050	0.38	1	0.67	0.48
AVERAGE	**500**	**1457**	**998**	**2954**	**0.34**	**1**	**0.69**	**0.51**

- Buck ratios are targeted through harvest objectives
  - Statewide Postseason Buck Ratio Objective of 30 bucks:100 does
- Fawn ratios are referred to as Production
  - Fawns born and entering winter per 100 does
  - Consistently 20fawns:100does above the statewide average

SPRING SURVEY OBJECTIVE

Fawns: 100 Adults

- Determine the % of overwinter fawn loss to estimate Recruitment

Recruitment = Production - Overwinter Loss

- Recruitment is the number of fawns from the previous year that have made it into the breeding population.
- This is the driver of population Growth/Stability/Decline.

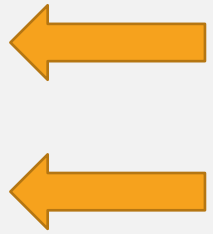
SPRING SURVEY

	SAMPLE				RATIOS	
YEAR	ADULTS	FAWNS	TOTAL	DOES	FWN/AD	%LOSS
2016					0.32	-38%
2017					0.28	-51%
2018					0.36	-35%
2019					0.28	-57%
2020					0.42	-24%
2021					0.43	-22%
2022	3410	1250	4660	1	0.37	-30%
AVERAGE	**3154**	**1062**	**4216**	**1**	**0.34**	**-34%**

Deer born in 2016 (6-year-olds) are lacking in the Population

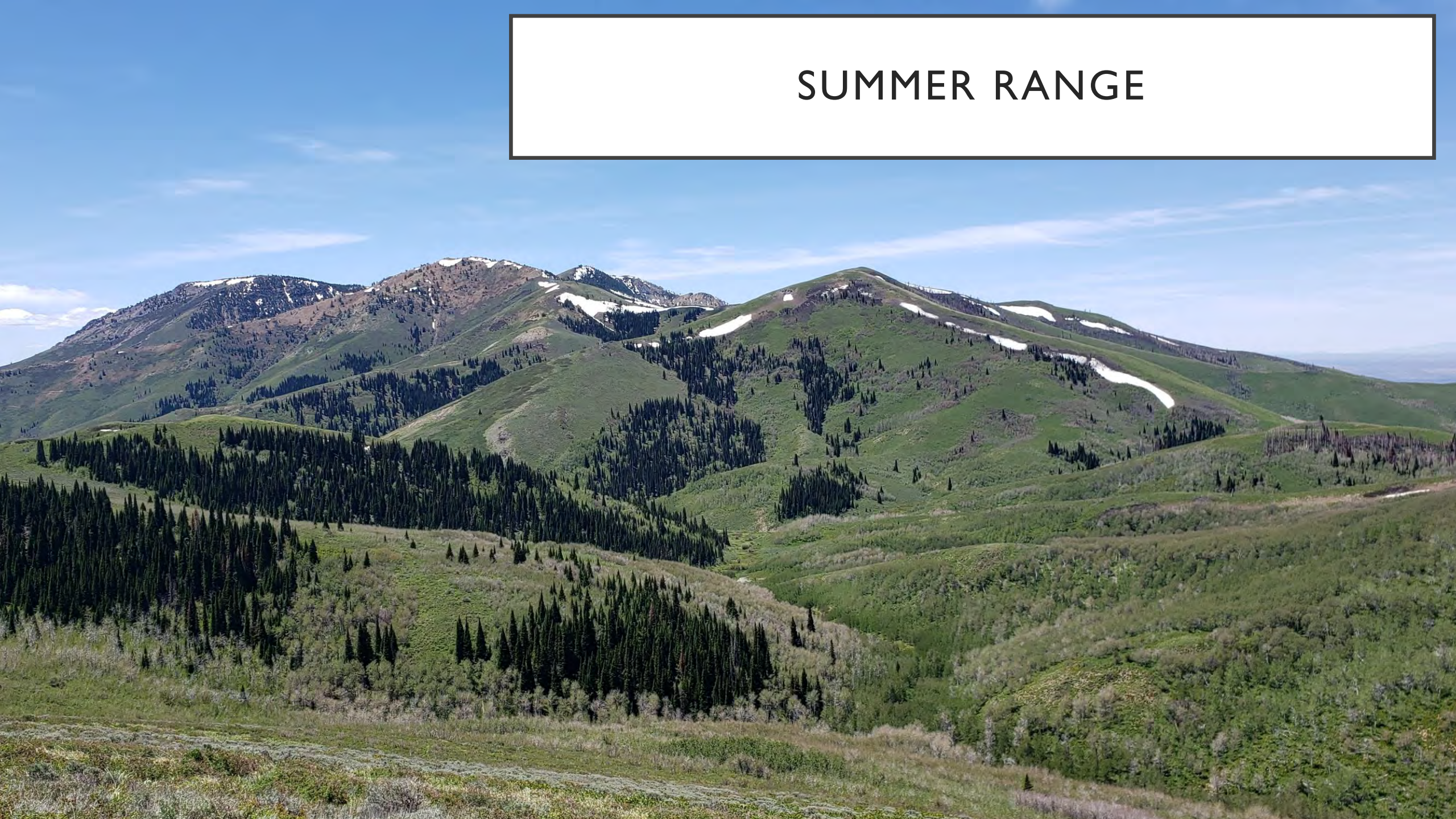
Deer born in 2018 (4-year-olds) are lacking in the populating

All age classes were affected by these winters



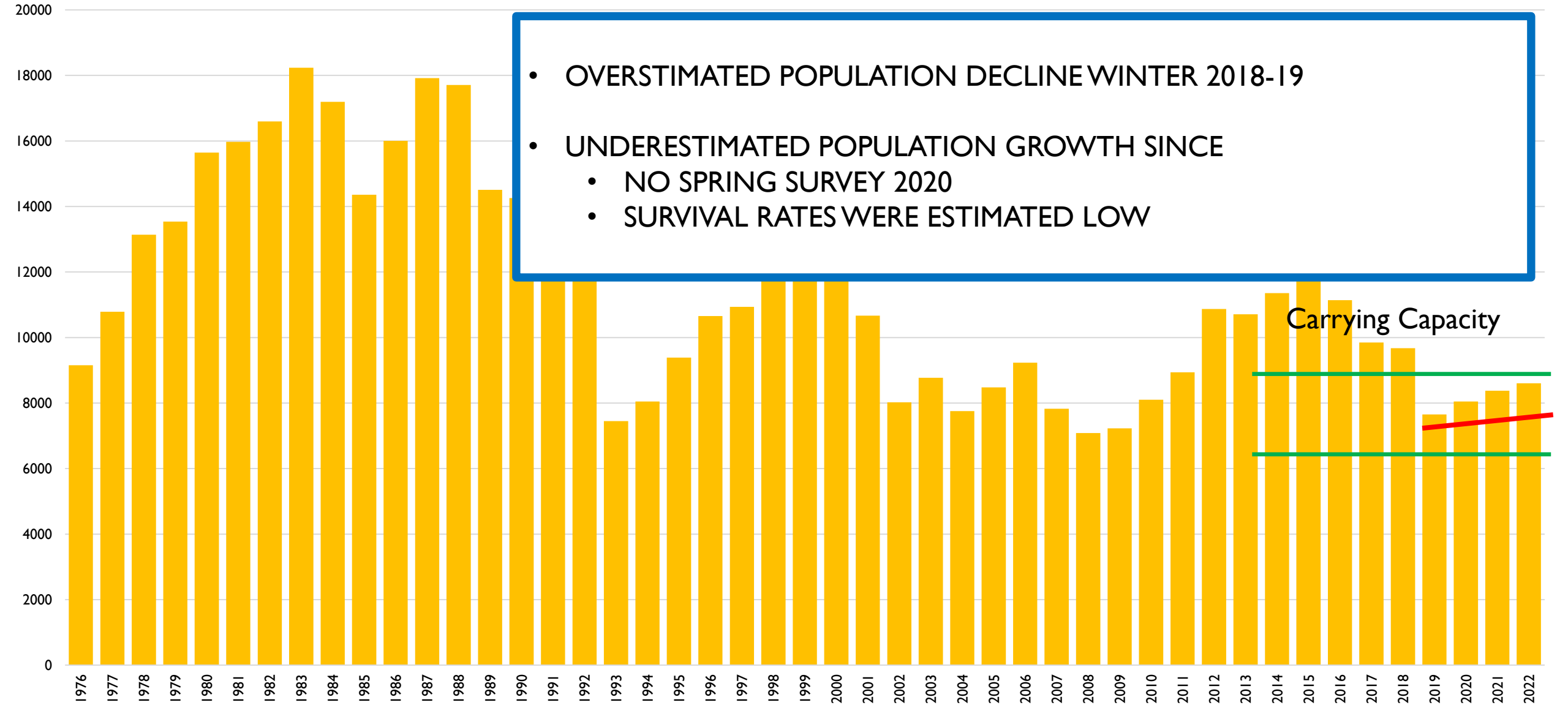
- The Fawn to Adult Ratio from spring survey is referred to as Recruitment.
  - Young of year entering the breeding population
  - Driving Population Growth/Stability/Decline
- Overwinter Fawn Loss % compares fall production rates to spring recruitment rates

SUMMER RANGE



WINTER RANGE

AREA 6 POPULATION STATUS & TREND



- OVERSTIMATED POPULATION DECLINE WINTER 2018-19
- UNDERESTIMATED POPULATION GROWTH SINCE
  - NO SPRING SURVEY 2020
  - SURVIVAL RATES WERE ESTIMATED LOW

HARVEST

HARVEST METRICS

Year	Archery Success (%)		Muzzloader Success (%)	Any-Legal-Weapon Success (%)		4-Pt or Greater (%)	Total Antlerless Harvest	NR Guided Success (%)
	Early	Late		Early	Late			
2015-2016	24%	n/a	45%	48%	71%	39	411	74%
2016-2017	23%	n/a	44%	50%	70%	40	489	58%
2017-2018	16%	n/a	40%	47%	55%	42	496	44%
2018-2019	20%	n/a	45%	53%	61%	40	389	59%
2019-2020	16%	n/a	31%	35%	52%	41	250	50%
2020-2021	14%	n/a	38%	34%	45%	45	254	49%
2021-2022	16%	n/a	31%	36%	58%	38	165	71%

- This success is based off # Successful Hunters ⌖ Tag Quota, this is the value used for generating tags
- However, published success is the # Successful Hunters ⌖ # Hunters Afield

DOE HARVEST OBJECTIVES

Doe Harvest objective is to maintain population within the carrying capacity of compromised winter range.

- As winter and transition range continues to burn in wildfires, degrade due to improper livestock management, and be negatively affected by drought – the carrying capacity of the range decreases.

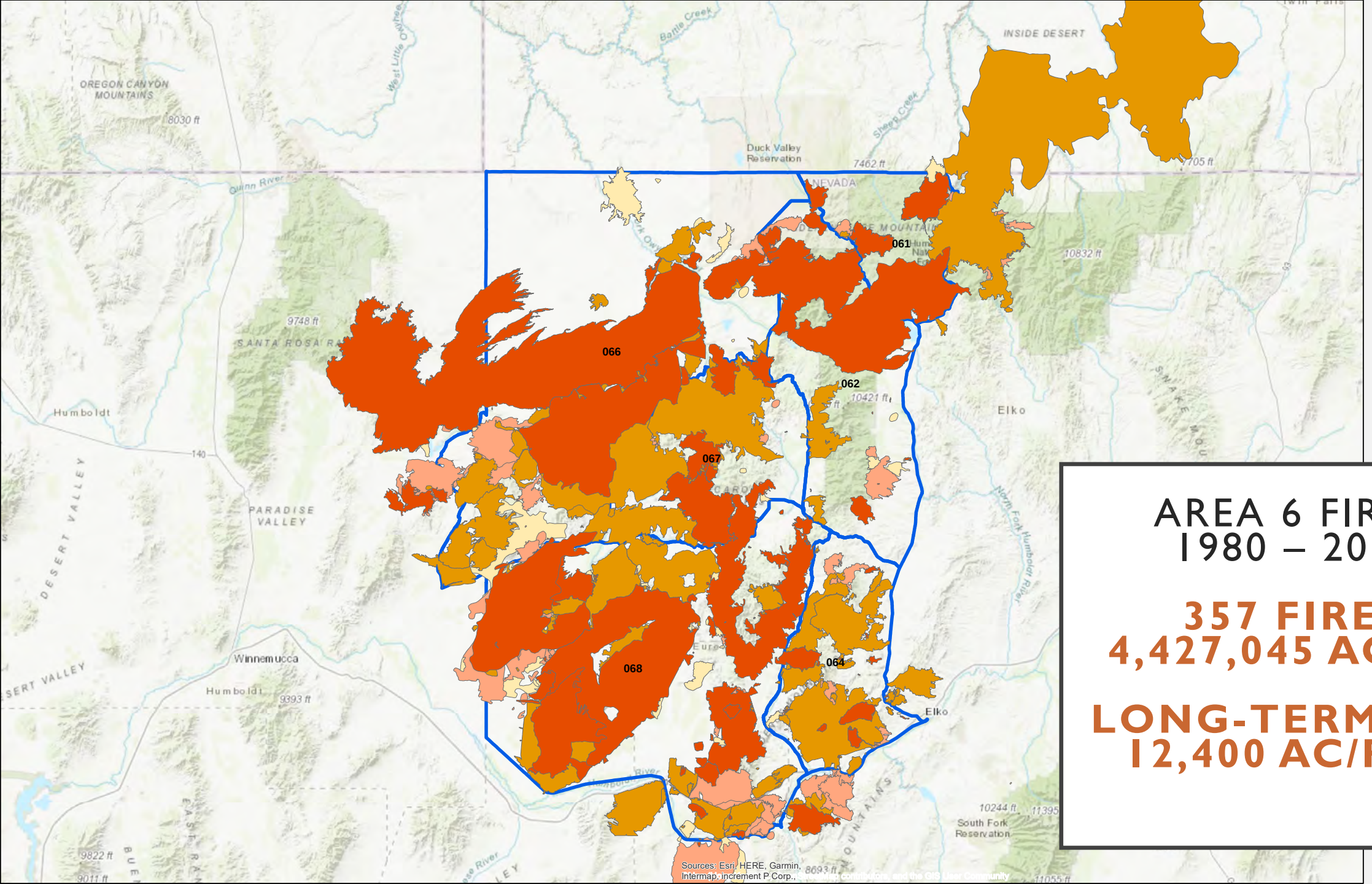
- As restoration efforts continue to improve habitat, carrying capacity can hopefully remain stable or increase; and only *if appropriate* allow for slow population growth.

- Too many mouths on the landscape creates competition for limited forage, creates a situation for catastrophic mortality events

WHAT'S IMPACTING THIS DEER HERD?

2007 MANAGEMENT AREA 6 HERD PRESCRIPTIONS

- **Wildfire**
- **Improper Grazing**
- **Noxious Weeds**
- **Urbanization and Development**
- **Fences**

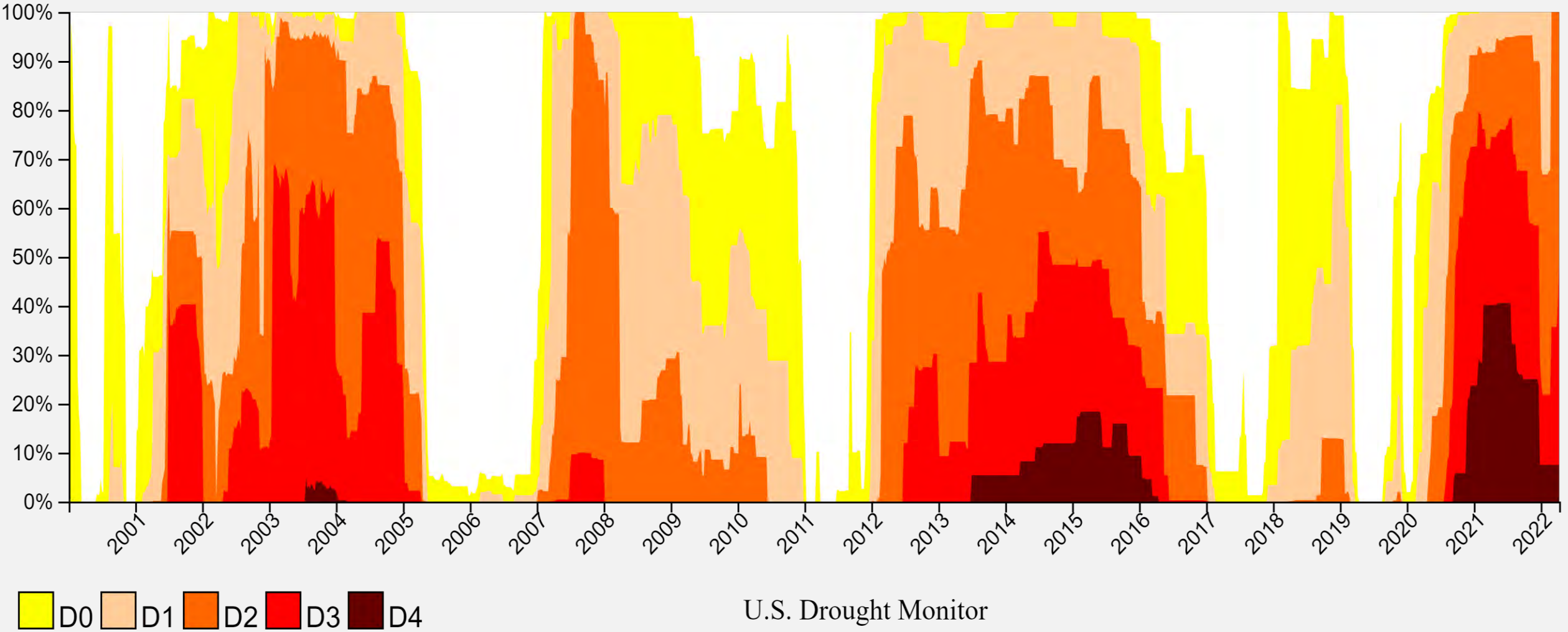


AREA 6 FIRES: 1980 – 2018

357 FIRES
4,427,045 ACRES

LONG-TERM AVE. 12,400 AC/FIRE

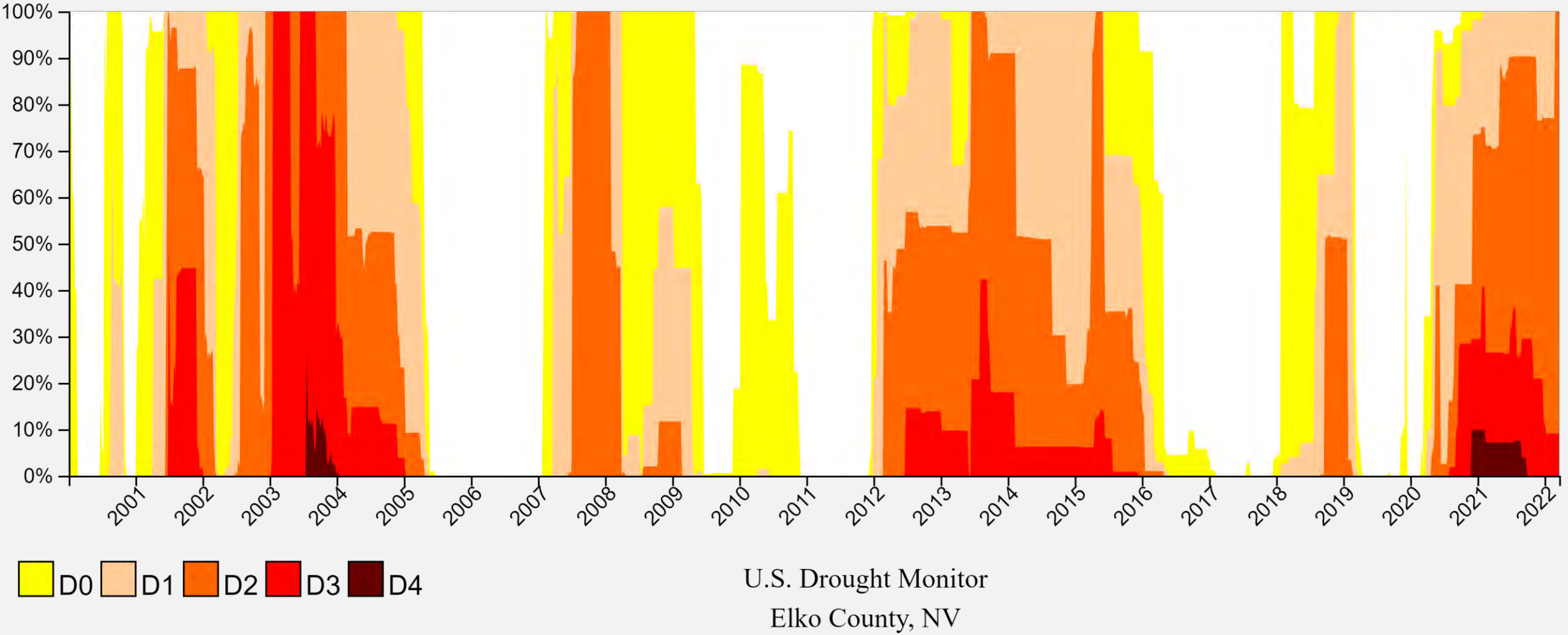
DROUGHT - NEVADA



U.S. Drought Monitor

Nevada

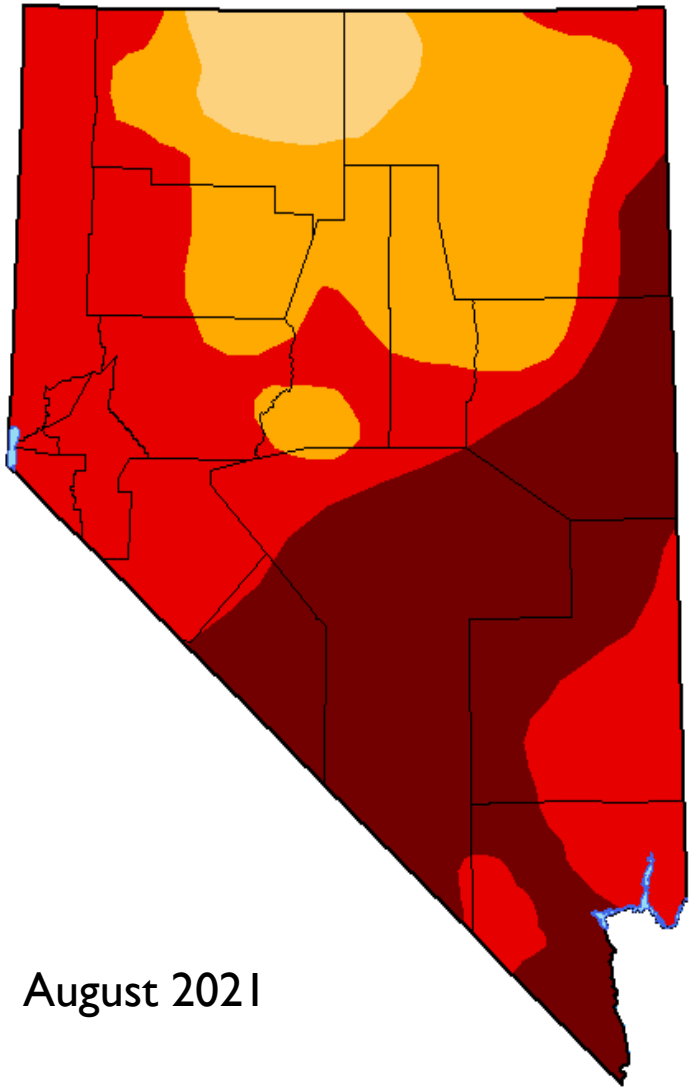
DROUGHT – ELKO COUNTY



U.S. Drought Monitor
Elko County, NV

U.S. Drought Monitor

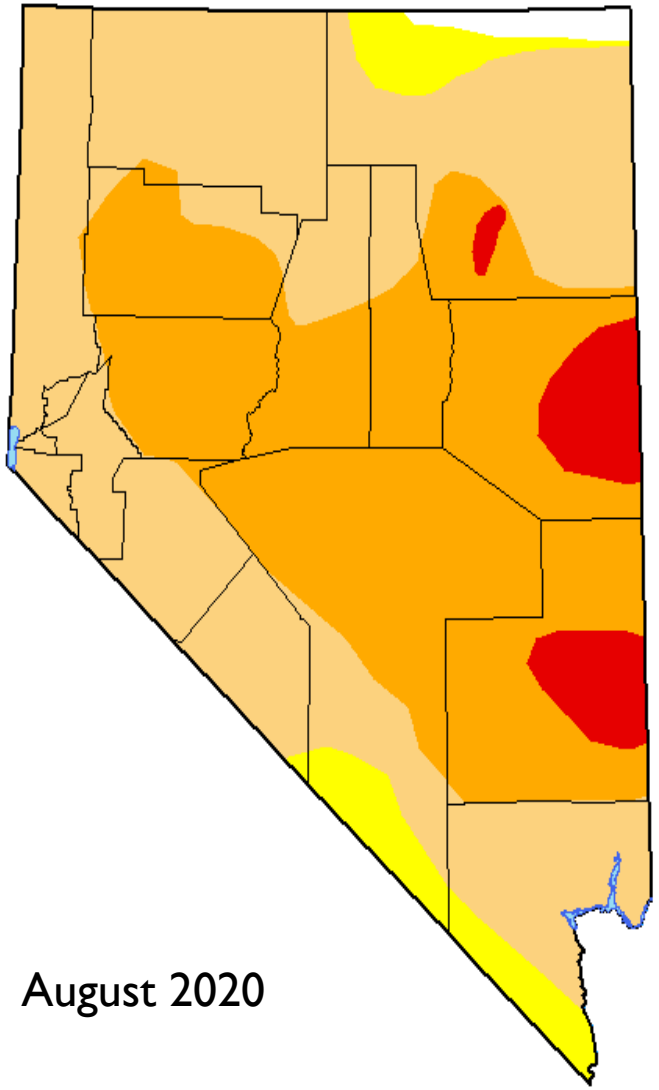
Nevada



August 2021

U.S. Drought Monitor

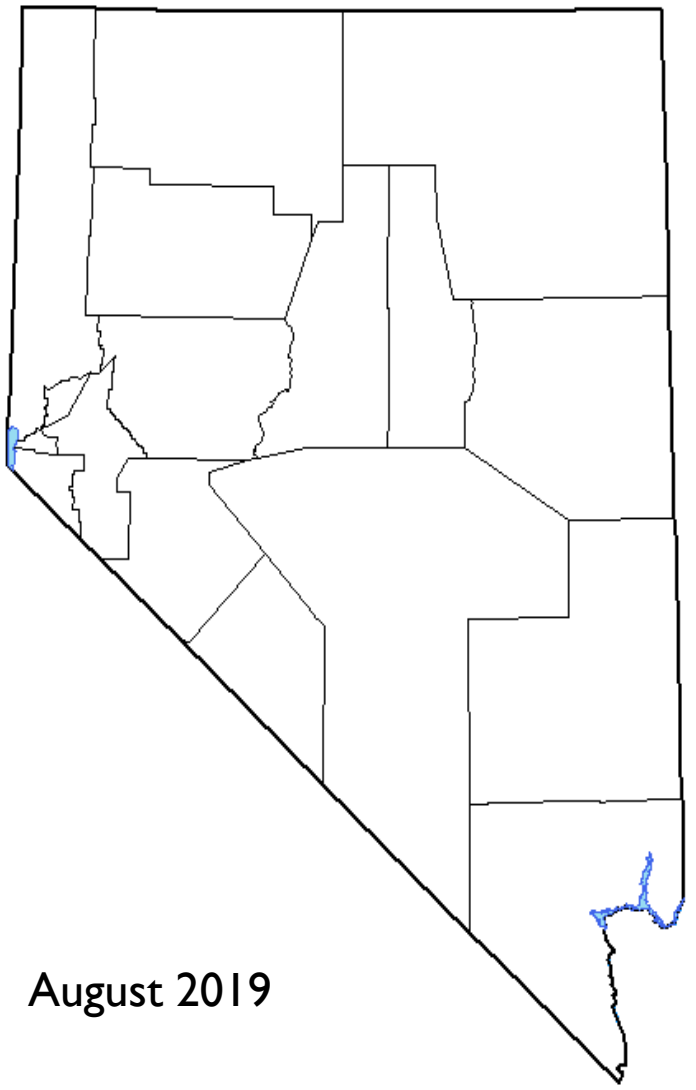
Nevada



August 2020

U.S. Drought Monitor

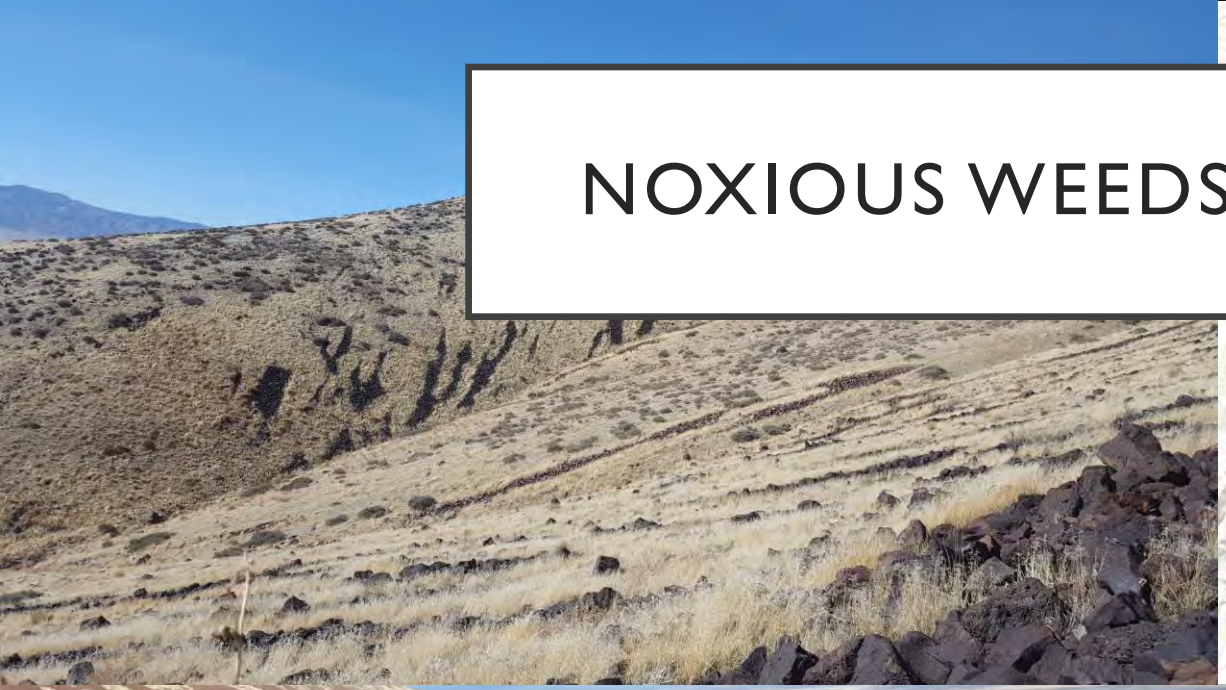
Nevada

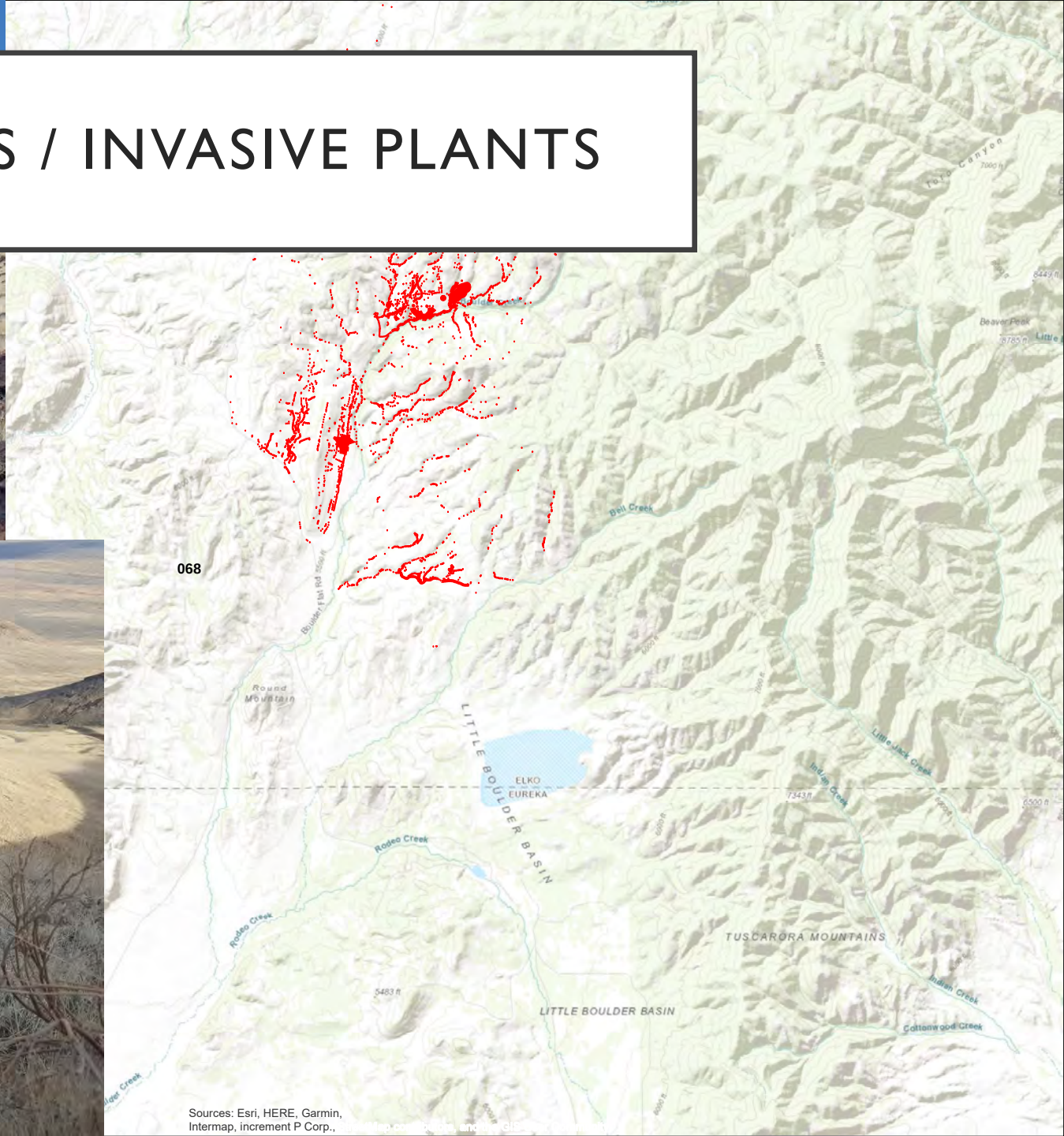


August 2019

LIVESTOCK GRAZING (IMPROPER MANAGEMENT)

NOXIOUS WEEDS / INVASIVE PLANTS





URBANIZATION AND DEVELOPMENT

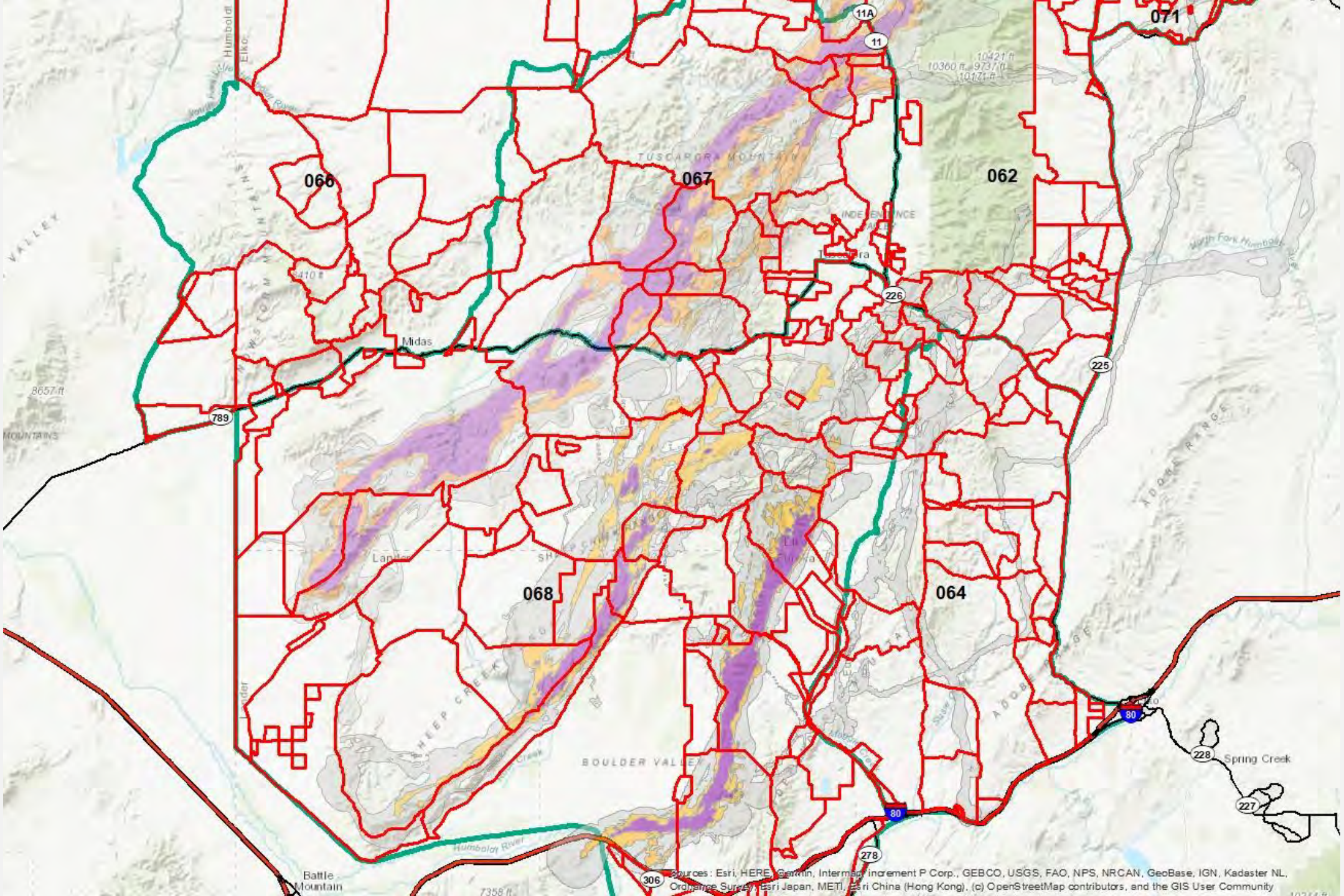
PETE WEST CORRIDOR
APRIL 2016

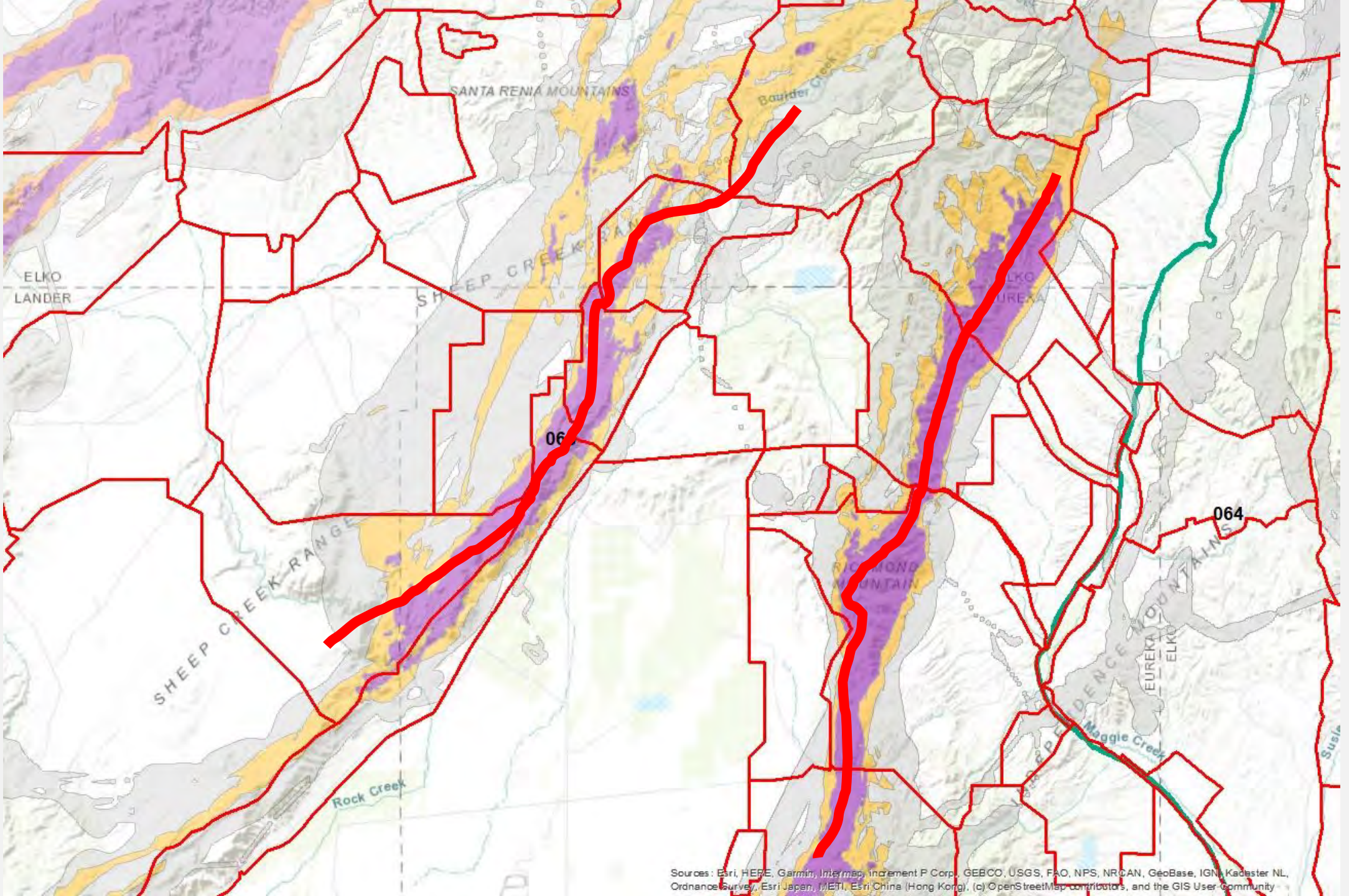
FENCES

Miles of fenceline fragment mule deer migration corridors

Creating excessive metabolic demands during an already energetically demanding time of year

Removal or modification of fences can be very beneficial


066
067
062
071
068
064
Midas
Battle Mountain
Spring Creek
Humboldt River
TUSCARORA MOUNTAINS
BOULDER VALLEY
SHEEP CREEK
789
226
225
228
227
80
278
306
11A
11
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community


SANTA RENIA MOUNTAINS
Boulder Creek
ELKO
LANDER
SHEEP CREEK RANGE
064
064
EUREKA
ELKO
Maggie Creek
Rock Creek
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

PROJECTS

PROJECTS

- Dunphy Hills Herbicide & Seeding
- Nelson Creek Herbicide & Seedling Planting
- Toe Jam Herbicide & Seedling Planing
- Habitat Remote Sensing Project
- NFWF Fence Removal
- NDOT – Humboldt River Crossing Infrastructure

FIELD TOUR SUGGESTION