

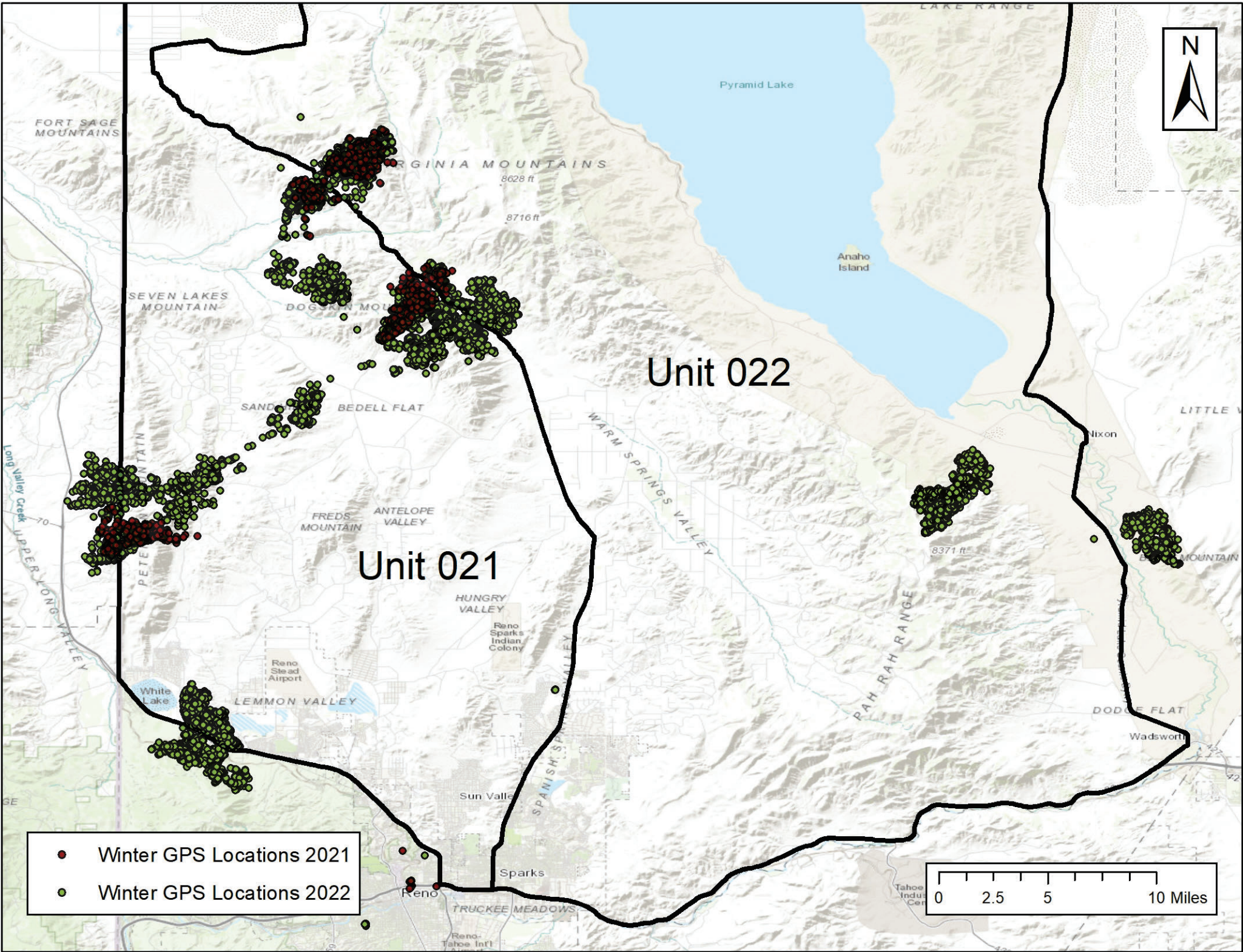
Investigations Projects

<p>Is the project urgent due to a narrow biological window that requires immediate investigation and funding to address the problem or lack of knowledge?</p>	<p style="text-align: center;"><i>Yes = 5 points</i> <i>No = 0 pts</i></p>	<p style="text-align: right;">5</p>
<p>Based on the previous year's collar data, predator removal in Management Area 2 should be considered urgent. With mule deer populations contracted from what they historically were in Area 2, predator removal should slow the further decline of this population. At the Mule Deer Summit, our subcommittee learned the importance of the interaction between predation and nutrition. Most of the deer collared last winter were in poor body condition, indicating they are more likely to make riskier decisions, and be more susceptible to predation. Conducting a predator project in conjunction with a collaring project makes both projects more efficient and effective.</p>		
<p>What is the likelihood of a successful project? High likelihood means a proposal is supported by sound scientific principles, appropriate sample sizes for statistical inference, and comprehensive study design. Low likelihood means a general lack of clear project objectives, or is not supported by scientific principles, or lacks a robust study design and direct application to wildlife management.</p>	<p style="text-align: center;"><i>High likelihood = 5 points Moderate likelihood = 3 points Low likelihood = 1 point</i></p>	<p style="text-align: right;">5</p>
<p>This project is likely to have high success due to the targeted removal on winter range. In "Ecology and Management of Black-Tailed and Mule Deer of North America" by James Heffelfinger & Paul Krausman, the Carnivore-Prey Relationship chapter cites predation to account for half the mortality during winter months for mule deer. This same chapter also states that during hard winters, or during years of drought where poor nutrition is available, predation can accelerate declines in populations and also limit the rebound of the populations. Due to our subcommittee having GPS collared deer in the hunt units prior to the project, as well as after, we have the ability to conduct a BACI (Before/After/Control/Impact) analysis on the effectiveness of the predator project.</p>		
<p>Does the project leverage funding or in-kind contributions by external partners and by how much?</p>	<p style="text-align: center;"><i>>3x match = 10 pts 1.5-2.9 match = 7 pts 0.75-1.49 = 3 pts 0.1-.74 = 1 pt</i></p>	
<p><i>(List amounts and sources if possible) Does the project have confirmed funding commitment from project partner such as a letter of intent?</i></p>	<p>Amount: \$ 125,000 Source: Predator Fee Amount: \$ Source:</p>	
<p>Cost Effectiveness: <i>Are the expected results worth the cost of the project?</i></p>	<p style="text-align: center;"><i>Very cost-effective = 10 pts Moderately cost-effective = 5 pts Minimally cost-effective = 1 pt</i></p>	<p style="text-align: right;">10</p>
<p>Due to the proximity of Management Area 2 to Reno, there is a high demand for tags that are allocated for these units each year. By removing the pressures of predation that may be limiting the herd's rebound, we will be able to provide more hunting opportunities for sportsmen. The project is also cost effective, by targeting lion removal in a concentrated area, as well as utilizing collared deer mortalities to guide lion removal efforts efficiently. This project is complementary to our ongoing collaring project by minimizing loss of collared deer to predation. Redeploying collars on replacement deer can cost between \$1000-\$2000 per animal.</p>		
<p>Amount Requested:</p>	<p style="text-align: right;">\$125,000</p>	
<p>Total Project Score (100 possible points)</p>	<p style="text-align: right;">Sum of Scores 78.2</p>	

Investigations Projects

Project narrative: *Be specific to the research needs and issues associated with mule deer and/or habitat and your technical approach to addressing the issue. Identify potential benefits to mule deer and other wildlife. Describe if the project would be conducted on BLM, FS, USFWS, or private land and if any private landowner permissions are necessary. Please describe any NEPA permitting requirements (such as permission to capture animals in wilderness) if on public land and when NEPA completion is expected. Also provide a tentative project schedule of major tasks (ie collar orders, capture dates, data collection period, reporting dates, etc). Please list any collaborators or project funding partners.*

To better understand the factors that may be limiting the mule deer of Management Area 2, our subcommittee deployed GPS collars on 32 mule deer from 2021-2022. More than half of the mule deer that were collared had back fat that was less than 0.2 mm thick going into winter and had a poor body condition score. In Unit 021, lion predation accounted for 4 of the 6 mortalities. In Unit 022, lion predation accounted for 2 of the 2 mortalities that were observed for collared mule deer. With both hunt units experiencing quality fawn recruitment the past few years, it is likely that adult mortality is the main reason the population is underperforming. At the MDEP Mule Deer Summit this past August, Jon Horne of Idaho Fish & Game, spoke on the importance of the interaction between predation and nutrition. Horne indicated that deer in poor body condition were more susceptible to predation, due to making riskier decisions while foraging. In winter months, deer are in their poorest body condition and are also congregated in higher densities on the winter range. As a result, our subcommittee is proposing to conduct targeted lion removal on critical mule deer winter range, as well as removing predators that kill collared mule deer. By having Wildlife Services remove lions from deer winter range during the months (December-May) when deer are most susceptible, we believe this will be effective and save on the cost of the project. Due to the number of collars that were deployed prior to predator removal, we have the ability to compare adult survival rates of mule deer before, during, and after predator removal. The project will also assess population trends throughout the duration of the project to determine if the predator removal had population level impacts. The attached map shows winter range for collared mule deer in Management Area 2, highlighting the areas this project would focus on.



FORT SAGE MOUNTAINS

Pyramid Lake

VIRGINIA MOUNTAINS
8628 ft

8716 ft

Anaho Island

Unit 022

SEVEN LAKES MOUNTAIN

DOG EAR MOUNTAIN

SANDY MOUNTAIN

BEDELL FLAT

WARM SPRINGS VALLEY

LITTLE V

Unit 021

FREDS MOUNTAIN

ANTELOPE VALLEY

HUNGRY VALLEY

Reno Sparks Indian Colony

8371 ft

Long Valley Creek UPPER LONG VALLEY

PETE MOUNTAIN

White Lake

LEMMON VALLEY

Reno Stead Airport

SPANISH SPRINGS VALLEY

PAH-RAH RANGE

DODGE FLAT

Wadsworth

Sun Valley

Sparks

TRUCKEE MEADOWS

Tahoe Indus. Cent.

Reno

Reno-Tahoe Int'l