

# Study sheds light on deer decline

By KATY NESBITT  
For EO Media Group

STARKEY — A study looking into predator-prey interaction at the Starkey Experimental Forest and Range in Union County revealed fascinating insight into more than predation on deer and elk, such as the dynamics between competing carnivores.

To answer why mule deer are declining at Starkey and across Northeast Oregon, researchers are looking at possible contributors, including the role of predators. According to OSU associate professor Taal Levi, who served as an advisor to a study led by Joel Ruprecht, a Oregon State University wildlife science doctoral student, the study included collaring a sampling of carnivores, monitoring deer and elk kills sites via game cameras and analyzing scat to determine what predators living within the 40 square mile experimental forest and range were eating.

The Starkey forest is encompassed by a fence that keeps deer and elk confined to the area, which allows unique types of research.

“Getting at the answer is a little bit challenging because mule deer compete with elk and are preyed on by multiple species,” Levi said.

Of the bears, cougars, bobcats and coyotes collared and monitored, Levi said the most interesting results occurred between cougars and coyotes.

“We learned that while coyotes tend to avoid cougars, they are strongly attracted to cougar kill sites,” he said.

Analyzing their scat provided further evidence that coyotes are eating elk. Levi said coyotes don’t typically kill elk past their young calf stage, but video recordings showed more than 90% of cougar kills were scavenged by coyotes.

This method of eating out is not without its challenges for the opportunistic coyotes. Levi said 7% of the dead coyotes discovered during the study were found at cougar kill sites, and between 20% and 23% of the Starkey coyotes were killed by cougars.

“There’s a risk to getting a ‘free lunch,’” Levi said.

## Bobcats keep clear of cougar kills

While looking specifically at the impact of predators on ungulates, Ruprecht said the study provided a unique opportunity to learn something new about carnivores.

“Generally predators are studied solely on how they influence prey, but how they influence and interact with each other was my interest,” Ruprecht said.

The research showed little interaction with the other two carnivore species in the study — black bears and bobcats. Based on photos, kill site investigations and the lack of



A new study seeks to shed light on why mule deer are declining in Northeast Oregon.

Contributed photo/ODFW

elk found in their scat, Starkey bobcats never scavenged on cougar kills.

Ruprecht said bears visited half of the cougar kill sites monitored, but only about one-third of the bear scat surveyed contained elk. No bears were found killed by cougars, leading researchers to believe there was little competition between those two predators.

“They are scavenging, but not like coyotes,” Ruprecht said. “My guess is because they use so many other food sources there is less motivation to incur the risk by potentially encountering a cougar.”

One of the takeaways, Ruprecht said, was why certain species do scavenge. “There is risk involved and decisions are made under imperfect knowledge of the proximity of a cougar,” Ruprecht said.

In some cases the coyote knows the cougar is there, Ruprecht said, incurring a lot of risk.

“An animal who is starving is going to take more risk to get a meal,” Ruprecht said.

## Study expands on previous research

Another reason coyotes may be more prone to scavenge is they are pack animals while bears and bobcats are not.

“It’s the ‘many eyes, many ears’ hypothesis,” Ruprecht said. “They take turns scavenging and take turns keeping watch — and they communicate to alert others of a potential risk or hazard.”

Levi said the study is part of a larger body of work the Oregon Department of Fish and Wildlife and the U.S. Forest Service are conducting that includes population dynam-

ics and nutrition as well as the drastic culling of Starkey’s three elk herds, through hunting and transplanting.

Mike Wisdom, Starkey ungulate ecology team leader with the Forest Service, said the predator research related to earlier research from the 1990s and 2000s that indicated interference competition between deer and elk.

“One species might intimidate another into being displaced,” Wisdom said.

A series of analyses and publications indicated elk used the landscape in a way that met their needs while mule deer were avoiding elk. Over time, elk changed their use of the landscape, and mule deer moved to other areas elk were not using.

“It became a concern in the fact that mule deer are declining in large areas at Starkey, throughout Eastern Oregon, and across other areas of the U.S.,” Wisdom said.

Increasing elk populations might be causing displacement and reduction of mule deer populations as well as the carrying capacity of the landscape to support them nutritionally.

Now that the elk population is a fraction of what it was a few years ago, Wisdom said there are a lot of different possible outcomes

— improved nutrition and body condition, behavioral use of the land, direct interaction with elk and changes in predation.

“Predators could dissipate and lessen their use, particularly cougars, but if we reduce that prey base of elk there may not be a positive response — cougars may just switch to eating mule deer,” Wisdom said.

Darren Clark, Starkey Wildlife Research Program leader with the Oregon Department of Fish and Wildlife, said for the last seven years the big picture has been to assess competition between elk and mule deer. Over the last three years the elk herd was reduced from 550 head to 75 to see how the mule deer respond.

According to previous work, Clark said, the forage available to the Starkey mule deer doesn’t have sufficient calories to meet a doe’s energetic demands during peak lactation, resulting in poor body condition.

“If deer shift habitat use, will their body condition and fawn survival increase?” Clark asked.

With the elk herds reduced by 80%, Clark said Fish and Wildlife will gather its first data set next year from fawns collared in 2021.



Contributed photo Gary Hatton poses with his 2016 Heppner Unit muzzleloader buck.

## SHOOTING THE BREEZE The useful muzzleloader

In times of thin and uncertainty, any tool we can use to cover more than a single base is worth consideration. Right now, thanks to a wide variety of hysteria-inspiring events, our country is experiencing yet another firearms/ammunition/components shortage. Straits aren’t so dire so as to be hopeless, but now might be the time to look at alternatives.

Black powder firearms, while not offering the low maintenance and high performance we are accustomed to in smokeless powder cartridge firearms, are still a formidable weapon and a worthy choice for hunting big game. While there are muzzleloading designs that have benefited by modern scientific advancements, the class I am referring to herein are the traditional “Oregon-legal” flintlock, caplock and open ignition in-line styles.

In a nutshell, to be Oregon-legal requires an open ignition, traditional lead ball or lead conical projectiles propelled by loose grain charges of powder. No optics, holographic sights nor even illuminated sights are permitted. Pelletized propellants, 209 shotgun primers, sabot, copper-jacketed and polymer-tipped projectiles are also prohibited. So when shopping with these parameters in mind, please realize that it’s a different game than other states and probably what you’ve seen on television.

One characteristic you’ll need to give attention is whether you plan to shoot

conical or traditional round-ball bullets. While the conicals will give the better performance on big game, many traditional muzzleloaders come equipped with super-slow twists, 1-60” or

1-72” for example, made for stabilizing a patched round ball. A faster twist will be necessary if you desire to shoot conicals.

The 1-48” twist is a good compromise if you’d like to shoot both conicals and round balls.

The newer In-line designs have the fastest twist at around 1-26” which works great with conicals and with aforementioned forbidden in Oregon bullet styles. Having the correct twist rate is pivotal to having sufficient accuracy. How accurate is sufficient? Only you can decide, but for me if I can’t keep three consecutive shots inside of a six-inch plate at 100 yards, it’s time to change bullets or learn to sneak closer.

Some I have seen could get much better than six inch groups at 100 yards with pet loads even with traditional designs. Practice makes perfect and I am far from it but like all my other favorite guns, the fun thing about muzzleloaders is loading them up and shooting them! If you’re looking for another way to fill the freezer and have fun doing it, please give blackpowder a try.

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