

# UND researchers study origin of horses at Theodore Roosevelt park

BY SYDNEY MOOK  
GRAND FORKS HERALD



Sydney Mook / Grand Forks Herald

Feral horses are pictured in the South Unit of Theodore Roosevelt National Park.

Feral horses living in Theodore Roosevelt National Park in the Badlands of North Dakota likely had multiple origins, but have since become inbred, according to a recent UND study.

The study, conducted by Igor Ovchinnikov, with UND, Blake McCann, with TRNP, and others with Texas A&M University, began when the researchers collected mane and hair samples from 196 horses during a roundup at the park in 2013. The sample represented a near census of the herd, since at that time a total of 214 horses existed in the park, according to the study.

While the origins of the horse herd at Theodore Roosevelt National Park are uncertain, historians suspect that the original group was a mix of horses from Native American horse traders and freerange horses maintained on the Badlands for ranching, according to a press release about the study.

To determine whether these origin assumptions were correct, researchers used the hair samples they collected and looked at two types of genetic markers

that can indicate where the horses came from.

The researchers found that for one type of marker, some horses in the herd matched with the American Paint horse, a breed of mixed origins.

Other horses had no close match, and instead had sequences with similarities to horses living in Siberia and East Asia, which is likely due to mixing of maternal lineages prior to the establishment of modern breeds, according to the study. The analysis also shows that the herd is highly inbred and has less genetic diversity than other feral horse herds and domesticated breeds.

McCann said there have been other studies done with the herd, but this is the first time they have looked at mitochondrial genetic diversity, which allows them to look at the herd at an even closer level.

“We had some prior studies on nuclear DNA, but they weren’t as extensive in terms of the total number of animals,” he said. “We expected that there would be low genetic diversity, this just tells us really how low it is in comparison to other feral herds across the United States.”

While the existing genetic data available for horses are insufficient to determine the exact origins of the horses roaming TRNP, the findings can be used for future herd management strategies, McCann said.

“Mitochondrial and nuclear DNA relationships demonstrated the distinctive nature of feral horses in Theodore Roosevelt National Park,” Ovchinnikov said in the release. “Maintenance of the herd as a breeding population will require adaptive management efforts focused on improving genetic diversity.”

**Mook is the higher education and**

**UND reporter. Call her at 701-780-1134 or email her at [smook@gfherald.com](mailto:smook@gfherald.com). You can also follow**

**her on Twitter @sydney\_mook.**