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Guanaco: Monte León National Park, Argentina

Migration Description

The guanaco is the most widespread herbivore in South America, and the continent's only ungulate with documented migratory behavior. Guanacos in Argentina's Monte León National Park and surrounding lands – predominantly coastal shrublands and grasslands – typically perform elevational migrations. They generally spend winters in the northern extent of their migratory range, near where the Santa Cruz River carves a broad, low-elevation valley that may provide shelter from snow and harsh winter conditions. As the austral spring approaches in September and October, guanacos migrate south to areas ~200m higher in elevation than their winter range, where they give birth and forage on vegetation in optimal nutritional stages. November is the start of the mating season, where males establish breeding territories that they defend through the summer. The timing of guanaco movements is flexible, and influenced by year-to-year weather variability. During the winter months, some guanacos also make escape movements east towards the coast when severe environmental conditions likely drive them away from their usual ranges.


Threats to Migration

The two main roads bordering Monte León National Park and the northern extent of the population's range appear to restrict the guanacos' migratory movements. Guanacos show limited movement across Ruta 3 along the western edge of the park, and Ruta 288, which bounds their winter range to the north. Both two-lane highways are fenced, and though guanacos often graze between the fence and the road, they rarely cross. In similar contexts for other populations in Argentina, guanacos commonly jump fences and cross roads either during migration or to reach new foraging areas. Therefore, more research is needed to understand the strong barrier effect of the roads on guanaco migrations in this system. A difference in traffic intensity or habitat quality in the lands surrounding the park could deter the Monte León guanacos from exploring further. Climate change has the potential to generate more extreme weather, and linear barriers could restrict this population from accessing more favorable habitats beyond their current range.

Throughout the Santa Cruz province of Argentina, fencing for ranchlands further constrains guanaco movements and there is widespread concern among the sheep ranching community that guanaco populations are overabundant, competing with livestock for forage. However, the Monte León population is one of the only populations in the province that does not interact with livestock and likely faces relatively less pressure from hunting.

Local Population Facts

Migration

Seasonal 
Short 16.5 km (avg.)

Threats



Species Facts

Common name: Guanaco

Species name: *Lama guanicoe*

Range: Argentina, Bolivia, Chile, Paraguay and Peru

Diet: Grazers, but will browse on woody vegetation when needed

Global population: 1,000,000–1,500,000 (estimated 2016)

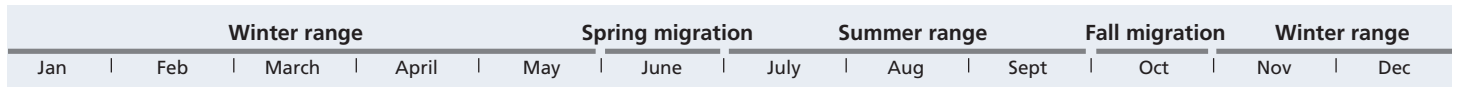
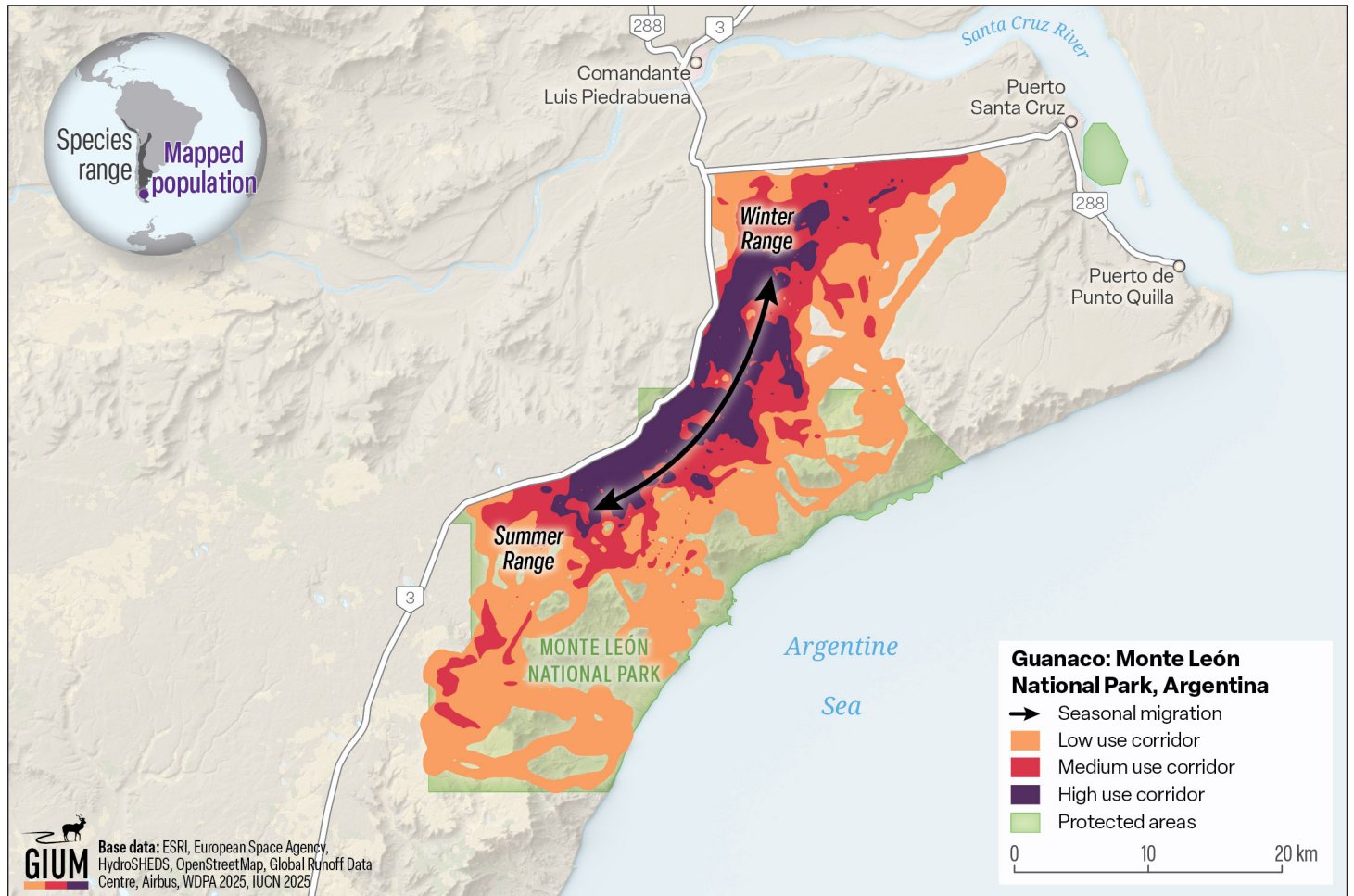
IUCN Conservation Status

LC Least concern

CMS Status

Appendix II Migratory species conserved through agreements

Guanaco Migration



Study Information

Sample size

35 individuals, 20 migratory

Relocation frequency

2 hours

Project duration

4.5 years, 2019–2023

Data Analysis

Delineation of migration periods

Net squared displacement to delineate migration between seasonal ranges.

Models derived from

Brownian Bridge Movement Model

Route Summary

Migration start and end date (median)

- Spring: June 14–June 22
- Fall: October 10–October 22

Average number of days migrating

- Spring: 11 days
- Fall: 10 days

Migration route length

- Min: 2.5 km
- Mean: 16.5 ± 9.7 km
- Max: 44.1 km

Data Providers

Data were collected by Emiliano Donadio with Fundación Rewilding Argentina, Pablo A. E. Alarcón with the Argentinian Research Council (CONICET) and Arthur Middleton with the Department of Environmental Science, Policy, and Management, University of California, Berkeley.

In partnership with:

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The Convention on the Conservation of Migratory Species of Wild Animals (CMS), also known as the Bonn Convention, is an environmental treaty of the United Nations that provides a global platform for the conservation and sustainable use of terrestrial, aquatic and avian migratory animals and their habitats.



The Global Initiative on Ungulate Migration (GIUM) was created in 2020 to work collaboratively to: 1) create a Global Atlas of Ungulate Migration using tracking data and expert knowledge; and 2) stimulate research on drivers, mechanisms, threats and conservation solutions common to ungulate migration worldwide.



View and Download
Map Data from the
GIUM Migration Atlas

Donadio, E., P. A.E. Alarcón, and A. Middleton. 2025. Guanaco: Monte León National Park, Argentina. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.