



Guanaco © Franco Bucci

Guanaco: Meseta del Lago Buenos Aires, Argentina

Migration Description

Living at the base of the Patagonian Andes, guanacos typically perform short distance, altitudinal migrations. The guanacos of this region, composed of private reserves and state and federal protected areas, exhibit partial migration in 74 percent of the radio-collared animals. Here, guanacos were flexible in their migratory behavior, with a portion of resident individuals becoming migratory depending on conditions in a given year. Their summer ranges are usually located at higher altitudes than winter ranges, with animals moving up in elevation toward the mountains during spring. Key drivers of migration include primary plant productivity and winter conditions. Migratory guanacos consume high quality forage year-round, as their use of winter and summer ranges coincides with the peak of plant green up in both areas. They also avoid deep snow by migrating to low-elevation winter ranges, which are often free of snow. Prior to this study, guanacos' migratory movements had not been described in this region.

Threats to Migration

Entanglement in wire fences is the main threat to guanaco migrations in Argentine Patagonia, where every year at least 1.6% of the population dies by getting trapped in fences. While roads with high traffic could act as barriers to guanaco movements in other parts of the region, researchers have not observed a negative effect of roads on the guanaco in Meseta del Lago Buenos Aires and the surrounding landscape. This is likely due to the fact that the only major road (highway 40) that guanacos cross when migrating experiences relatively light traffic. However, a growing human population and tourism industry is expected to increase the level of traffic on highway 40 in the coming years. Climate change is also expected to impact guanaco migrations. Increasingly-arid conditions in the region might alter the growing season on summer range for the guanaco, where vegetation productivity — important for guanaco reproduction — is highly dependent on winter precipitation. Sheep ranchers and locals have voiced concerns about decreasing forage availability on summer ranges in recent years, but research is needed to determine if guanaco populations are being affected.

Local Population Facts

Migration

Seasonal 
Medium 22.8 km (avg.)

Threats



Species Facts

Common name: Guanaco

Species name: *Lama guanicoe*

Range: Argentina, Bolivia, Chile, Paraguay and Perú

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

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

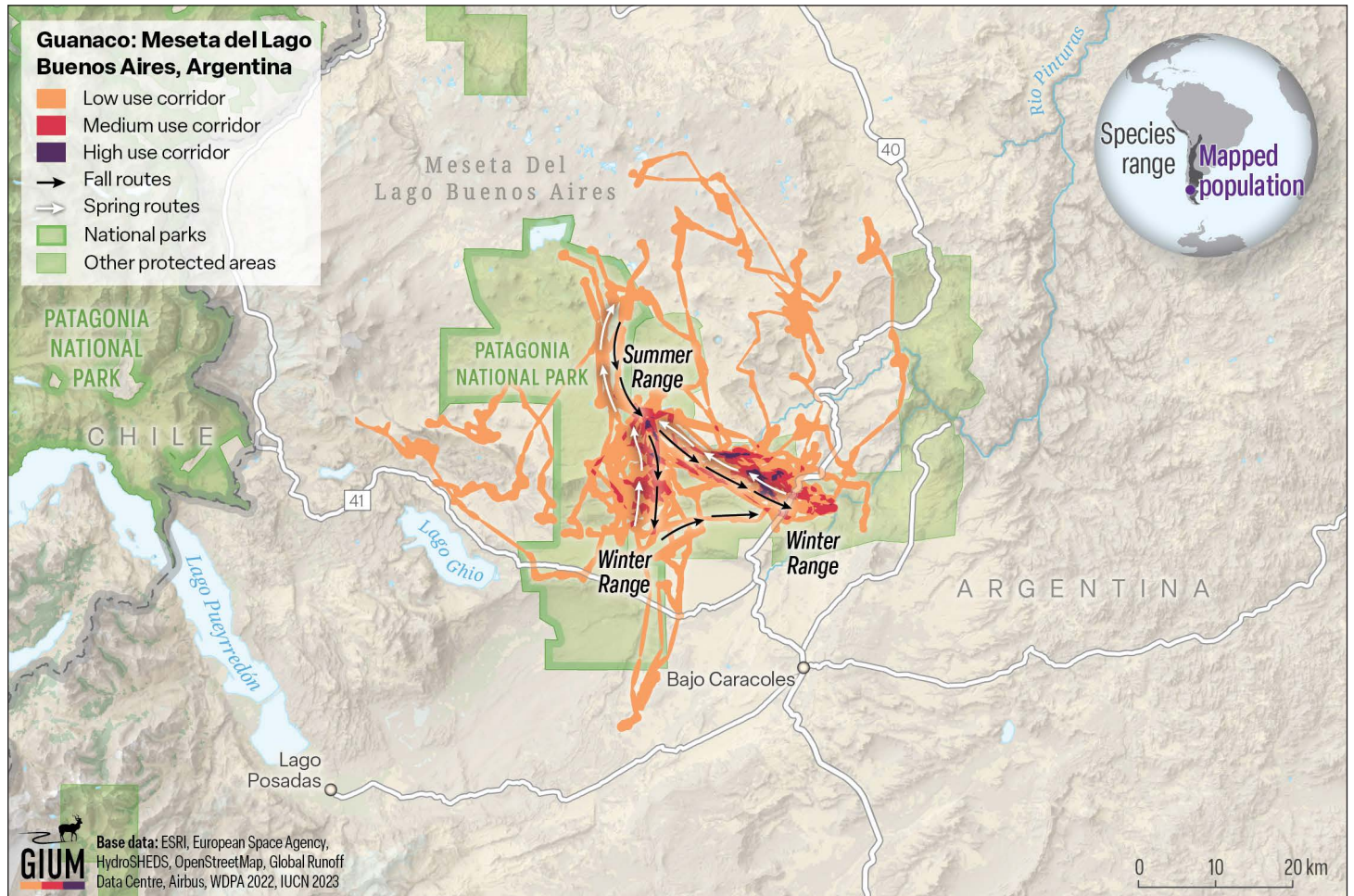
IUCN Conservation Status

LC Least concern

CMS Status

Appendix II Migratory species conserved through agreements

Guanaco Migration



Summer range		Fall migration		Winter range				Spring migration		Summer range	
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec

Study Information

Sample size

14 individuals

Relocation frequency

~2 hours

Project duration

4 years between 2019–2022

Data Analysis

Delineation of migration periods

Net squared displacement to delineate migration between winter and summer ranges

Models derived from

Brownian Bridge Movement Model (62 sequences, fixed motion variance, 1200)

Route Summary

Migration start and end date (median)

- Spring: October 24–October 26
- Fall: March 2–March 6

Average number of days migrating

- Spring: 7 days
- Fall: 6 days

Migration route length

- Min: 7.7 km
- Mean: 22.8 km
- Max: 50.4 km

Data Providers

Data were collected through the efforts of Emiliano Donadio and Emanuel Galetto with Fundación Rewilding Argentina.

In partnership with:

FUNDACIÓN
REWILDING
ARGENTINA



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., E. Galetto, and P. Alarcon. 2024. Guanaco: Meseta del Lago Buenos Aires, Argentina. Global Initiative on Ungulate Migration, editors. *Atlas of Ungulate Migration*. Convention on the Conservation of Migratory Species of Wild Animals.