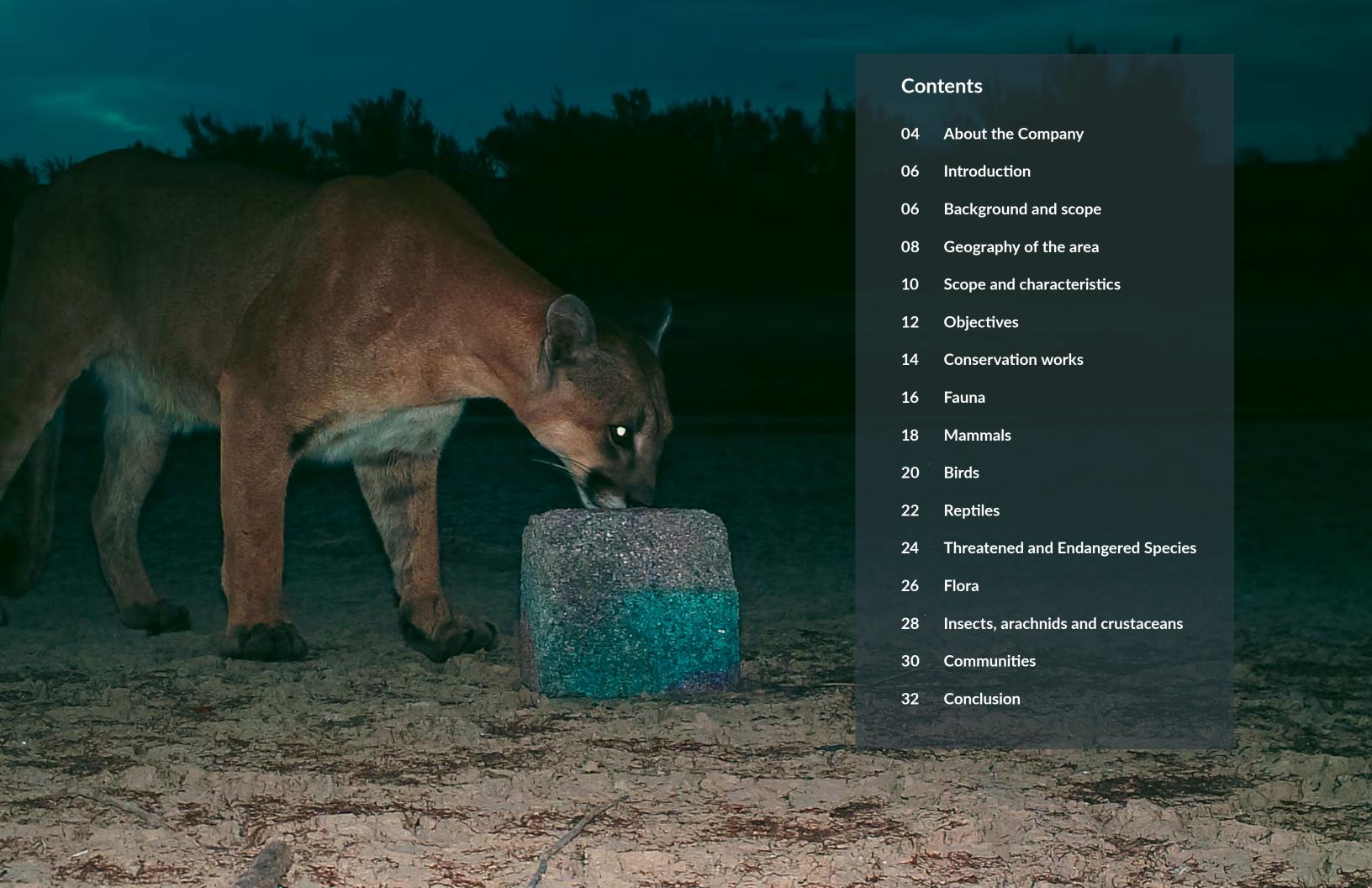


# WILDLIFE CONSERVATION AREA

A Case Study at La Encantada Mine







## **About the Company**

#### **Our Approach**

First Majestic is committed to socially responsible mining and we believe that taking responsibility for our environmental impacts is a critical aspect of social responsibility. Access to a healthy environment is not only a fundamental human right, but it also provides a foundation for long-term, sustainable relationships with our community and governments. Our commitment to responsible environmental management is an essential focus for our operating mines and new projects and impacts all of our internal and external stakeholders. A critical component of our vision is to be recognized for our excellence in operations and our contribution to sustainable development.

We know that operational excellence goes

"Environmental conservation through safe and sustainable operations is a priority."

Steve HolmesChief Operating Officer

beyond the return to our shareholders; it considers the well-being of our employees and their families, the communities where we work and the impact on our environment, while respecting the fundamental human rights, cultures, customs, and values of our employees and communities. First Majestic is committed to socially responsible mining: working safely, ethically, and with integrity, taking responsibility for our impacts on the environment and the communities where we operate, and contributing to local sustainable development. We recognize that the integration of responsible practices into our management systems and standards throughout the Company is essential to ensure the long-term prosperity of our business.

#### **Envinronmental Management**

First Majestic's Environmental Management System (EMS), applied to all operations and projects, is designed to establish a culture focused on preventing, minimizing, and mitigating environmental impacts. Our EMS is based on international standards and best practices, including alignment with ISO14001:2015.





### Introduction

First Majestic voluntarily allocated nearly 20,000 hectares of its Cielo Norteño property, municipality of Ocampo in the state of Coahuila, near our La Encantada mine, to restore, protect and conserve the semi-desert ecosystem.\*

The area includes native wild species such as candelilla, a plant harvested for its wax derivatives used in the cosmetic and food industries; and several iconic species of cacti, such as the agave.

The diversity of wildlife is also rich and includes coyotes, wild cats, wild boars, and protected species such as hawks, cranes, owls, lizards, and rattlesnakes. Threatened species include the northern fox, collared lizards, long-nosed leopard lizards, texas banded gecko, black-necked garter snakes, and leopard frogs. There is also an endangered species, the black bear for which special measures have been implemented, including a management program.

Our efforts include setting up camera traps in key areas to monitor wildlife and poaching. To reduce survival threats to native plant and animal populations, we reforested 50 hectares with plants from the region, mainly candelilla, achieving a survival rate of 90%. Within the perimeter of the conservation area, soil and water conservation works are carried out. Dams and animal feeders were installed throughout the project area.

The project considers the sustainable harvest of the wildflower Candelilla, an activity held with the collaboration of the Las Eutimias community, generating jobs that benefit 12 local families.

Other features of this project include environmental education workshops provided to La Encantada workers and residents of surrounding communities on measures to support the conservation of black bear habitat.

The Rancho Cielo Norteño is an example of how to create biological corridors in protected areas, in the state of Coahuila and throughout Mexico. First Majestic provides ongoing support to the project and promotes the protection of biodiversity in the region.



<sup>\*</sup> The project began in 2017 as a voluntary conservation initiative. The polygon covers an area of 19,475 hectares of semi-arid ecosystem and also includes special measures to minimize the impact on the habitat of the black bear and other protected species.

## Geography

The mexican state of Coahuila has registered 816 environmental management units (EMU) in 36 of the 38 municipalities that make up the state, whichs cover an area of 3,533,715.41 ha (23.33% of the territory).

The mexican state of Coahuila bordered to the north by the United States of America, to the east by Nuevo León, to the south by Zacatecas state, and to the west by Chihuahua state and Durango state. It is made up of 38 municipalities and its capital is the city of Saltillo.

The state of Coahuila has a territorial extension of 151,656 km2 (7.88% of the total surface of Mexico).

The state of Coahuila presents a varied physiography represented by three physiographic provinces: Sierra Madre Oriental, Great Plains of North America and Plains of the North, which in turn are divided into 10 subprovinces (Gran Sierra Plegada, Pliegues Saltillo-Parras, Serranía del Burro, Sierra de la Paila, Sierras Transversales, Sierras y Llanuras Coahuilenses, Llanuras de Coahuila y Nuevo León, Llanuras del Bolsón de Mapimí, Llanuras y Sierras Volcánicas, Laguna de Mayrán).

The state of Coahuila has four types of climates: dry, semi-dry, very dry and temperate subhumid, although the latter occurs in a minimum percentage of the state.

The EMU Rancho Cielo Norteño. as well as most of the territory of Coahuila, is located in the Chihuahua Desert, where the xeric scrubland is the most abundant plant formation (it covers 82% of the territory).

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The average temperature is 19.7 °C, with extreme values from -15 °C during the winter to 50 °C during the summer. The average annual rainfall is 366.7 mm, with temperatures of 791.2 mm in Ciénega de la Purísima and Arteaga, and 152.2 mm in Estanque de León.

Coahuila's geology is represented by a basement or rock support dating from the Paleozoic era (550-286 Ma), on which rests a thick sedimentary column originating in the Mesozoic era. Most of the formations are composed of sedimentary rocks: limestone, shale, sandstone, and dolomite. Formations of limestoneshale, pure limestone, gypsum limestone, sandstone, dolomite and siltstone also predominate. There are sandstone formations in a smaller number and there is only one composed of plaster. These formations determine the existence of non-metallic mineral deposits, among which coal, celestite, fluorite, barite and dolomite stand out, as well as metallic ones, such as iron.

The entity is part of four hydrological regions: Bravo-Conchos, Mapimí, Nazas-Aguanaval and El Salado. It has a large network of streams, some perennial and mostly intermittent. In terms of groundwater, there are 29 aquifers whose water recharge is 1,954 hm3. It is estimated that the average annual runoff in the state is 2,309 hm3, which is shared with Nuevo León and Tamaulipas and, through international agreements, with the United States of America.





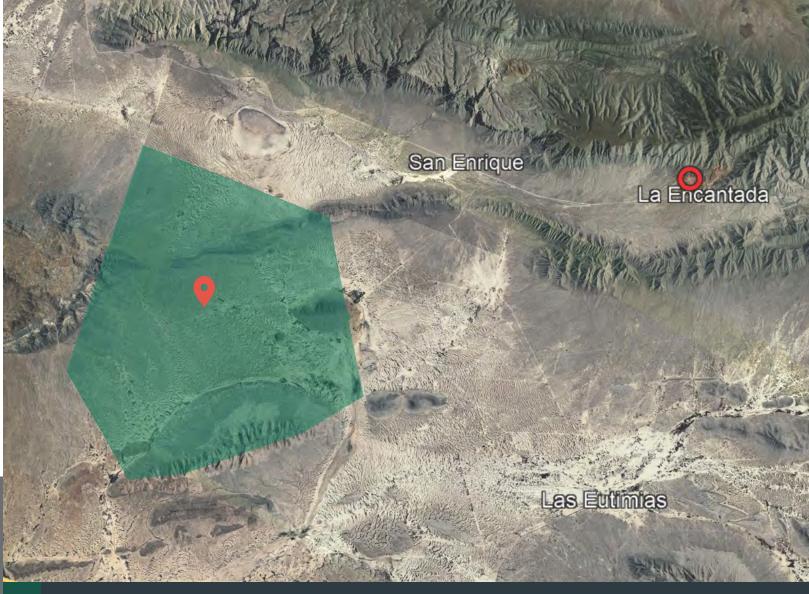


First Majestic Silver Corp.' operations include a sustainable vision of mining operations and commitment to the best environmental management practices, establishing the EMU, and allocating efforts to conserve wildlife in Rancho Cielo Norteño.

The General Law of Wildlife and regulates, contemplates through its regulations, the conditions for the establishment and operation of the Management Units for the Conservation of Wildlife (EMU). For Rancho Cierlo Norteño, the reports and management plans contemplated in the regulations were presented for recognition by the Mexican environmental authorities.

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Climate BWh (x'): Semi-arid,



19,475 Ha.

allocated by the Company to



Soil

The predominant type of soil is Regosol, a light-colored material, present on the slopes and lower parts of the Sierra La Encantada and is accompanied by a secondary soil of lithosols and rock or tepetate that emerges and its agricultural use is mainly conditioned by its depth and the stoniness they present. In this type of soil and the one corresponding to the projected area for the aforementioned work, plant communities of the Chaparral type and rosette-like desert scrubland. Its symbol is (R).



## **Objectives**

# Through the creation of the **Management Unit for the** Conservation of Wildlife (EMU), the protection of species in conservation status is promoted through habitat improvement.

Rancho Cielo Norteño, this is aligned with the approach of First Majestic to proactively support the development needs of local communities and leverage the social and economic benefits that can be generated by our operations and projects. Working to identify and collaboratively address development opportunities that come together with our business.

To evaluate the results of the unit's management, it is necessary to estimate the abundance, density and population size of the species to be protected, in order to start with the improvement of the habitat through reforestation with native species and soil and water conservation works. In the development of the process, the consequence is the growth of populations of wildlife of interest.

In the long term, the purpose is to achieve the conservation of the natural habitat of the wild flora and fauna in the region and favor the continuity of their biological cycles, while developing additional environmental services such as scenic beauty, water catchment, retention of soil and biodiversity protection.

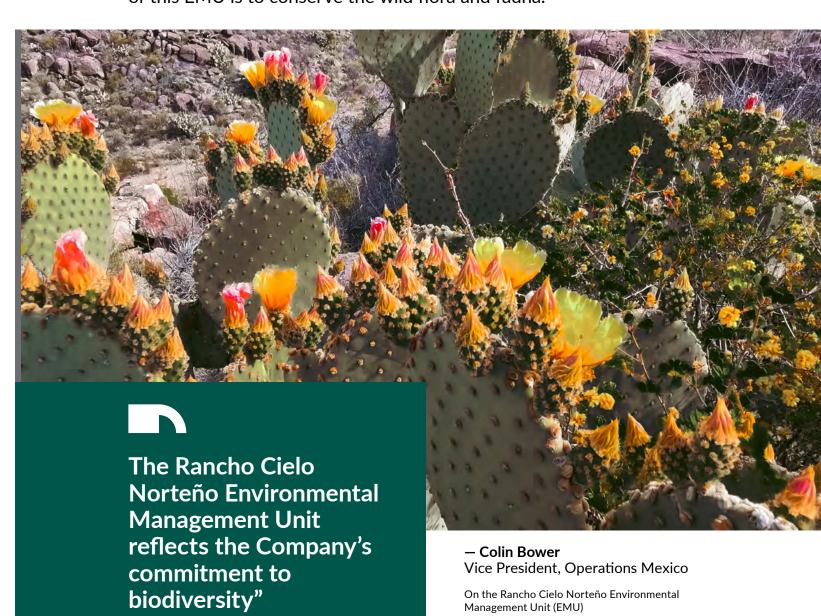
The management plan was prepared by a technical manager registered with the Ministry of the Environment and Natural Resources (SEMARNAT). The procedure is in line with the applicable environmental regulations.

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Although there are a series of success indicators, of a technical, economic and social nature, the main one is limited to the recovery of the populations of interest that are in conservation status (NOM-059-SEMARNAT-2010).

## **Purpose**

In the Rancho Cielo Norteño Environmental Management Unit, there is no type of hunting or commercial exploitation, since the main objective of this EMU is to conserve the wild flora and fauna.



# **Conservation Works**

The key objective of the EMU Rancho Cielo Norteño is the conservation of the flora and fauna of the region, for which soil conservation, reforestation and water catchment works are carried out.

In the Rancho Cielo Norteño Environmental Management Unit, no type of hunting or commercial exploitation is carried out, the main objective of this EMU is to conserve the wild flora and fauna of the region. Through this scheme, habitat improvement activities are carried out through reforestation with native species, installation of trap cameras, soil and water conservation works, monitoring of wild flora and fauna, environmental education talks to raise awareness among staff from Minera La Encantada and neighboring communities, as well as the generation of environmental services. Rancho Cielo Norteño additionally creates temporary employment opportunities for the inhabitants of neighboring communities.

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The Environmental Management Unit (EMU) is focused exclusively for protection and conservation activities, as a guideline from the organization"

– Adrián QuiñonesEnvironment Manager Mexico

## 17 hectares

As part of the initial work project, 17 hectares of trench ditches were excavated for water catchment and infiltration.

### Reforestation activities with native species

In 2017, 50 hectares were reforested with candelilla (Euphorbia antisyphilitica) and in 2022, 10 hectares were reforested with the species candelilla (Euphorbia antisyphilitica), agave (Agave lechuguilla), purple prickly pear (Opuntia macrocentra) and prickly pear (Opuntia rastrero).

### Soil retention, water catchment and filtration

Within EMU Cielo Norteño there are endemic species that are in a risk category (NOM-059-SEMARNAT-2010), their protection is of vital importance for the conservation of richness.











#### 1. Water catchment

Current status of trench ditches for water catchment and filtration in an area of 17 hectares. The trench ditch consists of the opening of ditches and embankments in a discontinuous manner. This system allows reforestation and favors the process of infiltration of rainwater.

#### 2. Signage

Installation of signs of "forbidden to damage, capture or collect species of wild flora and fauna".

### 3. Visual identification

The area of the Environmental Management Unit is delimited and signposted in accordance with applicable regulations.

#### 4. Reforestation

The reforestation carried out on 60 hectares has been done with native species, obtained by production and others have been relocated.

#### 5. Surveillance

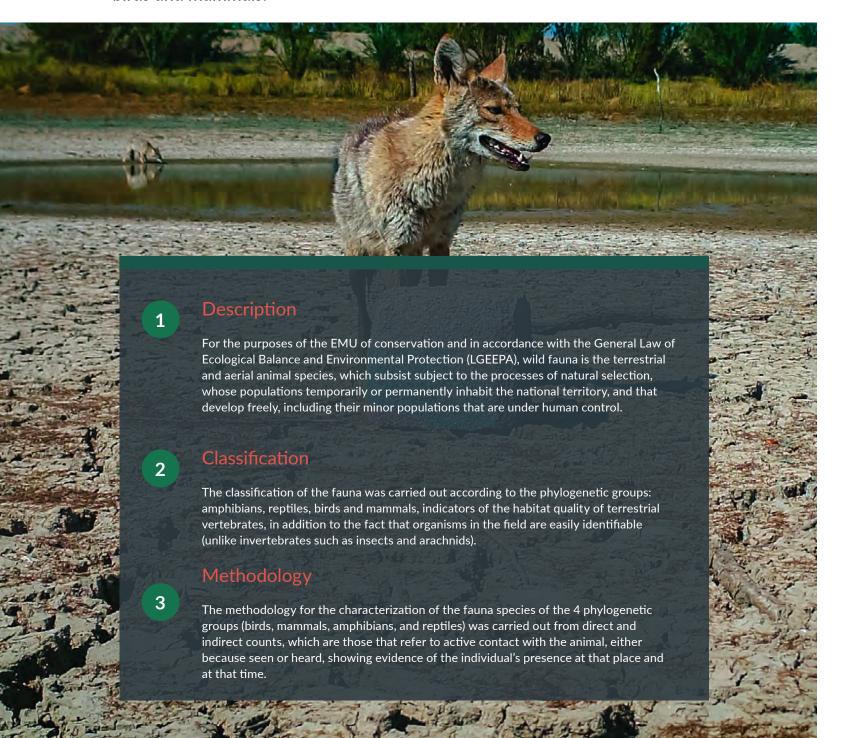
The staff conducts environmental surveillance tours and detection of forest fires.



### **FAUNA**

The Environmental Management Unit for the Protection of Wildlife, Rancho Cielo Norteño is located in a vibrant area due to its rich biological diversity. As part of the desert, the area has a wide variety of amphibians, reptiles, insects, birds and mammals.

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## Sampling

To evaluate the results of the unit's management, it is necessary to estimate the abundance, density, and population size of the species to be protected. This has been done with a methodological sampling that has allowed the construction of management plan according to the specific characteristics of the site. Subsequently the species have been monitored to follow up on the objectives, and of course to determine the potential presence of species not initially identified.



Monitoring cameras have been installed. These devices operate on batteries and are activated automatically when they detect the presence of fauna specimens.

Constant monitoring is important to estimate the behavior of the number of individuals of a species that inhabit the EMU, particularly mammals

### Mammals sampling

Tours were carried out through nightly physical counts with the help of artificial light. 25 transects of 2000 m length by 200 m width to thereby obtain an area of 1000 ha, where the location of excreta, footprints and the identification of other traces of mammals were carried out.

For the identification of the species, the field guide "Footprints and other traces of large and medium-sized mammals of Mexico" was used, as well as the historical distribution ranges established in the National Commission for the Knowledge and Use of Biodiversity (CONABIO, 2015). The NOM-059-SEMARNAT-2010 was jointly revised to know the conservation status of the faunal species identified during the field samplings, with the information obtained it was possible to make the list of fauna, allowing to classify the species by family, genus and species, common name and status of the NOM-059-SEMARNAT-2010.

## **Mammals**

Below are images of sightings of wild mammals, the images come from the photo traps installed at Rancho Cielo Norteño, except when a different source is indicated.







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1. Cougar/Mountain lion Puma Concolor

2. Hooded skunk Mephitis macroura

3. Kit fox Vulpes macrotis

4. Big brown bat Eptesicus fuscus Fotografía de CONABIO 5. Mule deer Odocoileus hemionus

6. Coyote Canis latrans

7. Bobcat Lynx rufus



9. Black bear Ursus americanus



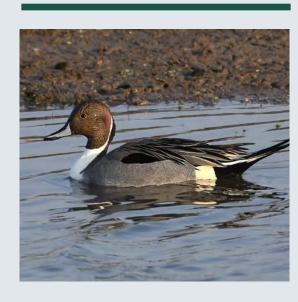






## **BIRD**

The biological diversity of birds in the area is exponential given the migratory habits of some species of flying birds, as well as the seasonal habits of species of terrestrial birds.



### **Birds sampling**

The method used to identify this group was the point count method, studying the bird populations at fixed points, the different specific compositions according to the type of habitat, and the patterns of abundance of each species.

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At each site, the number of individuals of each species detected visually and/ or acoustically was recorded, as well as the location of each bird in terms of observation distance and occupied vegetal stratification, as well as its activity: feeding, resting, moving, singing.

Northern pintail Anas acuta Photography by CONABIO

### Birds of the aquatic ecosystem

Some birds are part of the aquatic ecosystem, such as herons, wild ducks, moorhens, geese, pelicans and cormorants, which feed mainly on fish. Others, such as eagles, hawks, falcons, kingfishers and owls, although they do not live in water, are also closely linked to bodies of water, since part of their diet is made up of aquatic organisms (CONAPESCA 2014a).

### **Birds**

Within the EMU Cielo Norteño there are species of birds that are in some category of risk, their protection is of vital importance for the conservation of biological richness.











1. Gray heron Ardea Cinerea

**2. Greater roadrunner** *Geococcyx californianus* 

3. Common Raven Corvus corax

**4. Horned owl** *Bubo virginianus* 

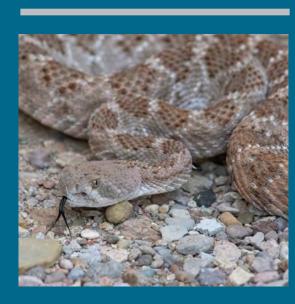
**5. Turkey vulture** Cathartes aura

### Migratory behaviors of birds

About 4.7 billion birds migrate from the north of the American continent to Mexico to spend the winter season. An important part of them stays in our territory while a nu,ber of them makes a short stop and then continues its journey south.

## Reptiles and amphibians

Within the Rancho Cielo Norteño, species of both amphibians and reptiles have been listed to discovered.



### Reptile sampling

The transect sampling method was used, which allows estimating the specific richness and relative abundance. The search for the organisms on the transects was carried out intensively and in the places that served as their habitat, that is, under the stones, among the leaf litter, under decomposing trunks, edges of bodies of water.

FIRST MAJESTIC

As a result of this sampling, a list of present species was prepared, classifying them by family, genus, species, common name and status in NOM-059-SEMARNAT-2010.

Western Diamondback Rattlesnake Crotalus atrox Photography by CONABIO

## Distribution of reptile and amphibian species in Coahuila

It is estimated that the state of Coahuila is inhabited by 133 species of amphibians and reptiles: four salamanders, 20 frogs and toads, 11 turtles, 49 lizards and 49 snakes.

Fifty-eight of the 133 species of amphibians and reptiles reported for Coahuila have been recorded in the extreme northwest of the state.

## **Species**

Amphibians and reptiles categorized as special protection inhabit EMU Cielo Norteño. Species can be found both on land and in water, below are the species that have been identified:











1. Turtle
Kinosternon hirtipes
Photography by CONABIO

**4. Rio Grande leopard frog** *Lithobates berlandieri Photography by CONABIO* 

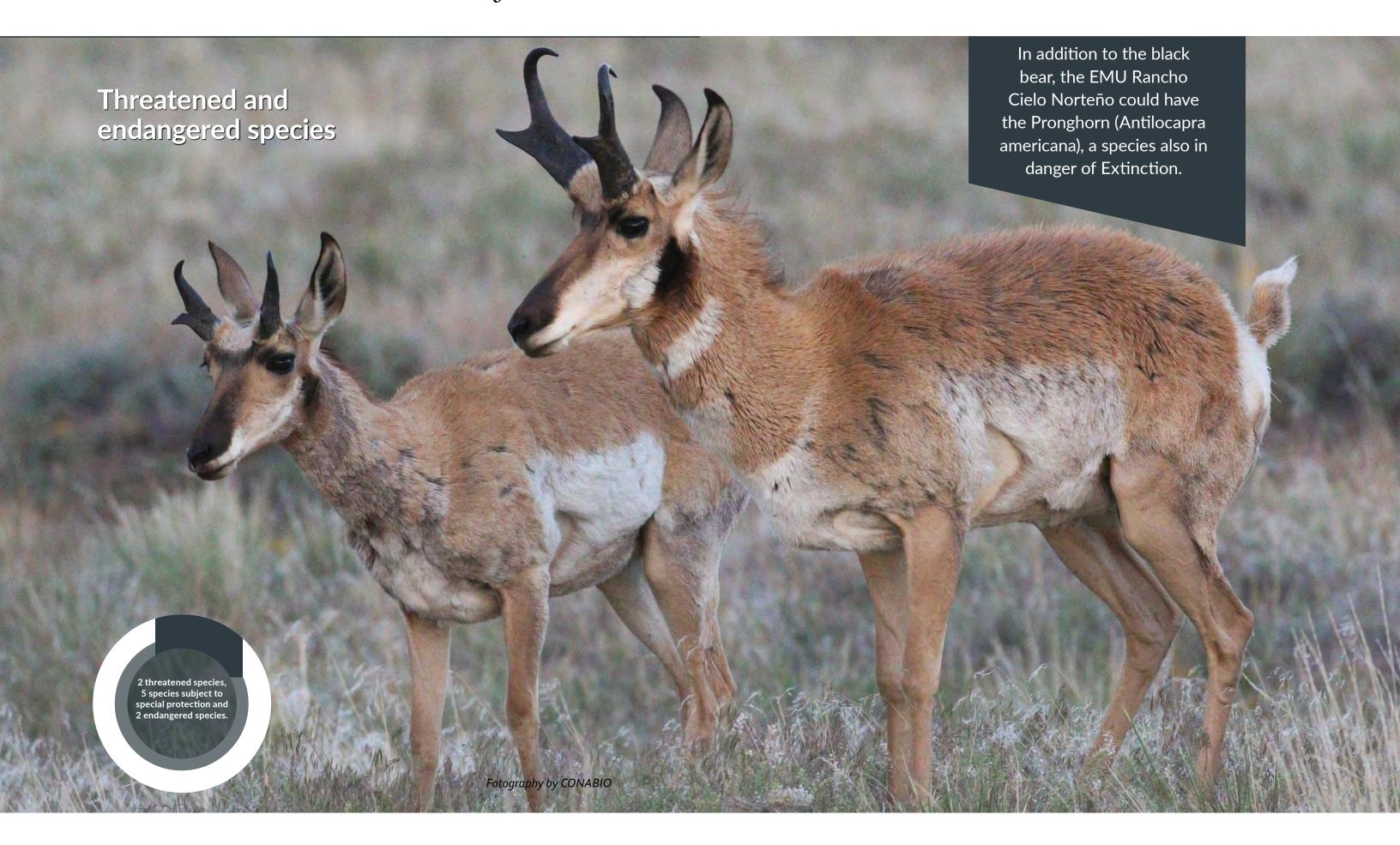
**2. Texas banded gecko** *Coleonyx brevis Photography by CONABIO* 

**5. Topera**Pituophis catenifer
Photography by CONABIO

**3. Texas horned lizard** *Phrynosoma cornutum Photography by CONABIO* 











### **FLORA**

In the bushes of the extensive plain on which Rancho Cielo Norteño is located, reside a wide variety of plant species that constitute a unique tapestry in the entire country.



One of the backbone strategies of conservation in the Rancho Cielo Norteño polygon is the reforestation of extensive areas of land, using native species of the area for this purpose. In this process, specimens are also relocated to promote their development.

FIRST MAJESTIC

In a first stage, 50 hectares were reforested with Candelilla (Euphorbia antisyphilitica) and in 2022 10 hectares were reforested with the species Candelilla (Euphorbia antisyphilitica), Agave (Agave lechuguilla), Purple Prickly Pear (Opuntia macrocentra) and Prickly Pear (Opuntia rastrero).

Plant and fungal species are likely to decrease their population in the presence of human activities such as farming and agriculture. Specifically, some species such as cacti, are usually extracted for sale.

In the municipality of Ocampo, Coahuila, where the Environmental Management Unit for the Conservation of Wildlife, Rancho Cielo Norteño, is located, the National Biodiversity Information Service (SNIB) has a count of 1,582 plant species with a total of 9,462 records of them.





Purple prickly pear Opuntia macrocentra



Chautle livingrock Ariocarpus fissuratus fissuratus Fotografía de CONABIO



Hedgehog cactus Echinocereus longisetus Fotografía de CONABIO



Button cactus Epithelantha micromeris Especie amenazada Fotography by CONABIO



Catclaw mimosa Mimosa biuncifera Fotography by CONABIO



Yellow creeping zinnia Sanvitalia ocymoides Fotography by CONABIO



Rat-tail nipple cactus Mammillaria pottsii FFotography by CONABIO



Allthorn castela

Castela tortuosa

Fotography by CONABIO



Silver prairie clover Dalea bicolor FFotography by CONABIO

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## INSECTS, ARACHNIDS AND CRUSTACEANS

Although they are not part of the Management Plan, the positive collateral impact exerted on insect populations, particularly those that are threatened and in transit, is undeniable.



They occupy a vital role within ecosystems, although on many occasions they receive less attention than other larger members of the natural world. Insects, arachnids and also crustaceans make up an extensive and rich community of inhabitants in the EMU Rancho Cielo Norteño.

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With the purpose of keeping the management of the area as simple as possible, and since it is not considered as part of the report within the norm, the species that belong to these groups are not currently monitored. However, it is enough to observe carefully to note the vibrant participation of its members.

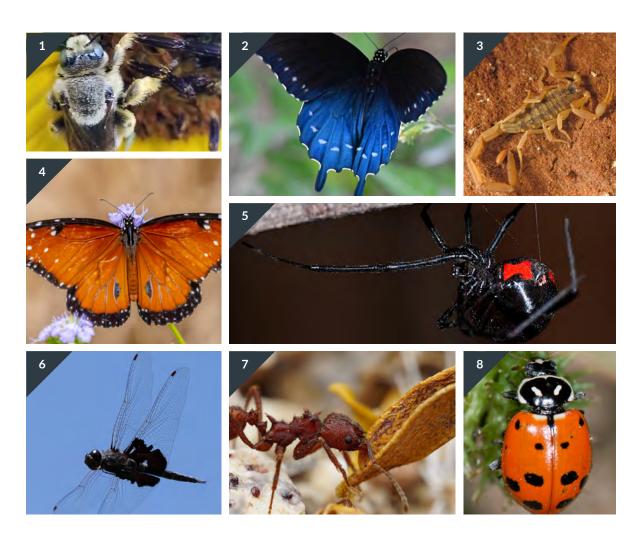
Butterflies, arachnids, isopods, freshwater shrimps, scorpions, bees, beetles, dragonflies live in Coahuila, and the list could continue extensively until the lines of this work are exhausted.

#### Impact of insect populations on the ecosystem

A large number of species of flying insects, due to their feeding and migration habits, impact the pollination processes of many plant species in the Coahuila desert.

In the food chain they are consumed regularly by birds, reptiles and some mammals.

### Insects and arachnids



- **1. Sunflower chimney bee** *Diadasia enavata*
- **4. Queen butterfly** Danaus gilippus
- 7. Desert leafcutter ant Acromyrmex versicolor
- **2. Pipevine swallowtail** *Battus philenor*
- 5. Southern black widow Latrodectus mactans
- 8. Convergent lady beetle Hippodamia convergens
- 3. Striped bark scorpion Centruroides vittatus
- **6. Black saddlebag** *Tramea lacerata*

All the photographs on this page were taken from the CONABIO Encyclolife

<sup>\*</sup> The species mentioned in Insects, Arachnids and Crustaceans are presented in an informative way. Unlike the flora and fauna whose specimens have been methodologically sampled and/or sighted, those shown here are species that inhabit the area according to information from the National Commission for the Knowledge and Use of Biodiversity, so potentially could inhabit or populate the EMU Rancho Cielo Norteño in the future.



To achieve the objectives established in the Rancho Cielo Norteño management plan, the participation of neighboring communities is strategic, so the main activities actively involve them.

As part of the sustainable development activities, and in coverage of the EMU Rancho Cielo Norteño management plan, the communities are involved in the care and monitoring process of the area.

The inhabitants of the nearby communities have also found additional income through the temporary work program, when reforestation, soil and water conservation works are carried out.

The closest towns to the Cielo Norteño property are: Ejido Nuevo Milagro (adjacent), Granizo 1 km away, General Treviño 8 km away, Los Bajios 10 km to the southeast and Las Eutimias 10 km away.



Nearby communities actively participate in monitoring activities at EMU Rancho Cielo Norteño and join working groups to carry out works within the property, also generating additional income for their families.

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The communities participate in the signaling, construction of borders, monitoring and protection of the UMA Rancho Cielo Norteño. They also actively participate in awareness campaigns and are part of the first surveillance in case of forest fires in the area.



Knowing and valuing our biological and cultural capital helps to ensure its protection, conservation and sustainable use. Knowing the semi-desert better will help us cushion the anthropogenic impacts in the area and help conserve the natural environment.

One of our core values, and a key component of First Majestic's vision, is working toward sustainability through exceptional corporate citizenship. We know that operational excellence goes beyond the return to our shareholders: it considers the well-being of our employees and their families, the communities where we work, and the impact on our environment, while respecting the fundamental human rights, cultures, customs, and values of our employees and communities. The Rancho Cielo Norteño Environmental Management Unit reflects our commitment to this core value.

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For the preparation of this document, the GRI Standards guide was used: Disclosure 304-3 "Habitats protected or restored".

#### **BIBLIOGRAPHY**

La biodiversidad en Coahuila, Estudio del estado, Volumen I y II Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO) y Gobierno del Estado de Coahuila de Zaragoza. 2017. La biodiversidad en Coahuila. Estudio de Estado. CONABIO/Gobierno del Estado de Coahuila de Zaragoza, México.

Lemos-Espinal, J. A. 2015. Anfibios y reptiles de las regiones 36 Sierra La Encantada, Coahuila. Universidad Nacional Autónoma de México. Facultad de Estudios Superiores Iztacala. Informe Final SNIB-CONABIO. Proyecto No. JF001. México, D.F..

Additional photographs courtesy of: CONABIO, National Commission for the Knowledge and Use of Biodiversity through "Enciclovida" Insurgentes Sur, No. 4903, Col. Parques del Pedregal, Del. Tlalpan, C.P. 14010, Mexico, CDMX





# RANCHO CIELO NORTEÑO

Environmental Management Unit for the Conservation of Wildlife

2022

