



Protocol for Responsible Puma Viewing in the Torres del Paine Biosphere Reserve of the Torres del Paine Municipality





Cite this document as:

Ilustre Municipalidad de Torres del Paine, Panthera, The Nature Conservancy, Torres del Paine Legacy Fund & SERNATUR, 2025.
Protocol for Responsible Puma Viewing in the Torres del Paine Biosphere Reserve of the Torres del Paine Municipality. 39 pp.

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Cover and back cover photograph: Nicolás Lagos.

All photographs used in this document follow the guidelines of this protocol and were taken with the corresponding permits, both within Torres del Paine National Park and on private ranches.

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1. Introduction

This protocol for good practices for safe puma viewing in the Torres del Paine Biosphere Reserve in the municipality of Torres del Paine, is the product of a collective process that was developed from May to July 2025, by the Municipality of Torres del Paine, Panthera, The Nature Conservancy Chile – TNC, Torres del Paine Legacy Fund and SERNATUR Magallanes. During this period, three participatory events were held to develop this document: an online informational session and two participatory working groups, attended by more than 150 tourism stakeholders from the public and private sectors, as well as specialist guides from Torres del Paine.

Prior to these activities, a base document was prepared within the framework of a master's thesis at the University of Chile (Rita Zamorano, 2023-2024), under the supervision of Panthera, that served as a fundamental reference for the development of this participatory process and the formulation of the good practices presented here. This protocol also includes information from a previous process prepared by CEQUA (CEQUA, 2020).

The World Tourism Organization (UNWTO) defines sustainable, responsible, and accessible tourism as an activity that “seeks a balance between economic growth, environmental conservation, and social development...”, contributing 9% of global GDP and generating one in eleven jobs (UNWTO, 2021; Benítez, 2018). Special interest tourism (SIT), which includes activities such as wildlife watching, has experienced significant growth but also faces significant challenges, as it can negatively impact species conservation and contribute to environmental degradation (Isaac, 2000; Tablado *et al.*, 2017).

Studies have shown that tourism can negatively affect wild cats, altering their behavior and survival. For example, researchers have observed that leopards (*Panthera pardus*) avoid areas near human settlements and reduce their day-time activity in areas with high tourist influx (Ngoprasert *et al.*, 2007). Species such as tigers (*Panthera tigrus*) and cheetahs (*Acinonyx jubatus*) have also been found to be vulnerable to tourism, and can even abandon their prey when disturbed, thereby decreasing the survival of females and cubs (Broekhuis, 2018; Kerley, 2002). These findings highlight the need to regulate tourism activities to mitigate their negative effects on the target species.

Human safety is another critical aspect, given that approximately 50% of carnivore attack incidents on humans are specifically related to risk-increasing human behaviors, most of which are preventable (Penteriani *et al.*, 2016). In this sense, it is essential to adopt policies, planning, and management strategies that promote coexistence between humans, and specifically tourism activities, and wildlife, minimizing negative impacts and promoting conservation and responsible practices (Ballantyne *et al.*, 2009). Research plays a key role, as evidenced by studies such as Muntifering *et al.* (2019), which helped formulate specific protocols for encounters between tourists and black rhinos (*Diceros bicornis*), reducing tourism-related rhino movements by 80% while maintaining high visitor satisfaction, resulting in a strategy that guarantees the coexistence of responsible tourism practices and the conservation of healthy populations of the species. This highlights the importance of a balanced approach that guarantees responsible and safe experiences in wildlife tourism.

Throughout history, various regions and specific localities have developed regulations and practices to regulate wildlife watching tourism and reduce its negative impact. In the case of birds, Costa Rica has been a pioneer in this area, implementing a Code of Ethics based on initiatives previously developed in other regions. This 25-point code emphasizes that “the welfare of birds comes first” regardless of the activity (Menacho *et al.*, 2020), establishing a valuable model to





promote responsible and sustainable tourism. Similarly, in the observation of large mammals such as gorillas and bears, international guidelines and specific manuals have been established that seek to minimize stress and the effects of habituation, preserving their natural behavior and ensuring the safety of both animals and visitors. For gorillas, institutions such as the International Union for Conservation of Nature (IUCN) and programs such as Gorilla Friendly™ have promoted standards of good practices and certifications that encourage conservation, respect, and the development of local communities (WFEN, 2024). In the case of bears, in places like Alaska and in parks like the one in Asturias, specific



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protocols and good practice manuals have been implemented to ensure respectful and safe encounters, also promoting economic benefits and strengthening conservation efforts (Smith *et al.*, 2005; CBVA, 2018; MITECO, 2017). These examples show that in different contexts, establishing clear regulations and responsible practices has been essential to harmonizing tourism activity with the conservation and well-being of species, laying a solid foundation for the sustainable management of nature tourism.





1.1 Context in Chile

In Chile, tourism has grown significantly in recent years, becoming a significant economic activity for the national GDP, generating sources of income and job opportunities for communities in rural areas throughout the country. However, the increase in visitors to certain natural areas has increased pressure on these ecosystems and protected areas. Among the regions with the highest visitation rates are Antofagasta, Los Lagos, and Magallanes, whose visitor numbers have steadily increased in recent years (Rivas, 2018; Undersecretariat of Tourism, 2019; CONAF, 2020). Within the latter, Torres del Paine National Park stands out as a key destination for nature tourism, with a marked increase over the last decade in puma sightings and photography, a species classified as Near Threatened nationally. This species presents conservation issues in some of its populations in Chile because they are susceptible to hunting pressure, amongst other threats, motivated by attacks on livestock and possible risks to people (MMA, 2024; Tortato *et al.*, 2020; Elbroch *et al.*, 2024).

A recent study indicated that puma abundance and occupancy in Torres del Paine were negatively correlated with road and trail density. The species was also observed to be less prevalent during the peak tourist season, preferring sites away from human presence (Cifuentes *et al.*, 2023). Furthermore, puma-focused tourism has fostered greater tolerance towards the species on the part of cattle ranches, who see this activity as a potential alternative source of income and local employment, highlighting it as a potential coexistence strategy (Ohrens *et al.*, 2021). Additionally, puma viewing tourism allows for close encounters with the animals, providing a unique opportunity to generate new knowledge about the biology and ecology of the species (Cárdenas *et al.*, 2021, Elbroch *et al.*, 2023), transforming it into a potential tool for citizen science programs. Despite the above, while puma viewing tourism has great potential for both economic and local development and as a tool for conservation and research of the species, the lack of specific regulations for this activity impedes its effective management.

Human safety in wildlife tourism is essential, so preventive measures must be implemented to protect visitors while also minimizing the impact on wildlife and habitat. In the case of puma viewing in the Torres del Paine Biosphere Reserve, it is essential to establish specific regulations that ensure both the conservation of the species and the safety of tourists.

The Torres del Paine Biosphere Reserve Conservation Plan, which establishes special-interest tourism as one of its main priorities, identified the importance of promoting good wildlife viewing practices, particularly for carnivores such as pumas (TNC, 2024). It is essential to highlight that this best practices proposal document is framed within these guidelines, reinforcing a management approach that balances tourism development with conservation, strengthening the relationship between the two aspects in line with the plan's principles.

In short, puma viewing tourism in the Torres del Paine Biosphere Reserve represents a unique opportunity to combine conservation and sustainable development, potentially serving as an example for other regions and ecosystems in the country. However, it also poses significant challenges that require urgent attention. The integration of scientific and local knowledge, environmental education, community engagement, and strategic planning at different scales are essential to ensure that this activity is respectful, safe, and beneficial for both people and the conservation of the puma and its habitat. Only through a cross-sector commitment among interest groups (guides, tour operators, public services, researchers, NGOs, among others) and adaptive management will it be possible to ensure that the tourism experience and the conservation of the puma and its habitat are compatible and sustainable over time, establishing a tourism model that serves as a benchmark for future initiatives in the field of wildlife.





2 Objectives

2.1 General objective

Ensure that puma viewing activities are carried out in compliance with regulations, and in a safe, responsible, and educational manner that prioritizes the conservation of the species and ecosystems, human safety, and quality of the experience.

2.2 Specific objectives

- Design and agree on a proposal for guidelines for safe puma sightings within the Torres del Paine Biosphere Reserve, in the municipality of Torres del Paine.
- Promote compliance with current regulations by all those who engage in puma viewing within the Torres del Paine Biosphere Reserve.

3 Fundamental principles

- **Conservation:** Contribute to safeguarding the protection of local puma populations and their habitat.
- **Safety:** Minimize risks to people (visitors, guides, operators) and wildlife.
- **Sustainability:** Promote responsible practices that balance tourism and economic development with the conservation of flora and fauna.
- **Education:** Promote awareness of the importance of respecting and protecting flora and fauna, contributing to the development of good practices in this area.



4 Scope of application

This protocol is intended to be applicable to all wildlife viewing activities, with an emphasis on puma viewing, carried out within the Torres del Paine Biosphere Reserve. It includes both public lands, such as Torres del Paine National Park, and private properties. It also covers public roads and paths within the Torres del Paine Biosphere Reserve, in the municipality of Torres del Paine.

Regarding the management of Protected Areas, this protocol seeks to create opportunities for the new administration, the Biodiversity and Protected Areas Service, to allow the protocol to have an impact on the regulations and rules of Protected Areas, especially in Torres del Paine National Park.

5 Target audience

The target audience for these guidelines includes:

- Tourism service providers who design and implement tourism activities focused on puma viewing, such as guides, trackers, agencies, tour operators, lodges, hotels, and transport providers, as well as the general public who participate in these activities. These actors will be responsible for promoting and disseminating compliance with the protocol among visitors and related workers.
- Visitors, who number in the thousands and visit puma viewing sites each year, will be the main beneficiaries and also responsible for ensuring that established regulations are enforced.
- Conservation managers and researchers in related fields will benefit from the process and results of developing this regulation.
- The owners of areas where puma viewing tourism activities are carried out.
- In this regard, the necessary steps will be taken to ensure that this instrument serves as an input for regulations administered by entities responsible for public and private protected areas in areas where this species lives (e.g., SBAP, CONAF, SAG).
- Those responsible for designing and formulating public policies related to tourism and wildlife conservation, such as municipalities, governmental and non-governmental organizations, whose decisions we hope will be enriched by these guidelines.

Point 6 lists the proposed minimum guidelines for the wildlife viewing protocol, specifically for pumas. These guidelines were developed in participatory workshops held during May and July 2025 at the offices of the Municipality of Torres del Paine, resulting in agreements that define the guidelines of this document in a participatory and binding manner.



6 Measures proposed

All commercial adventure tourism activities, which include wildlife observation (in the specific case of this puma protocol), must be carried out through an agency or tour operator, with a specialized guide hired for this purpose, as established by current regulations in Law No. 20,423 and its regulation DSN°19/2019.

In the event of accidental encounters with tourists in vehicles or on foot, a series of guidelines are established at the end of the document to minimize the risk to both pumas and people.

As a concrete measure, we hope that the providers, guides, and operators that participated in the collaborative work groups will adhere to the commitment to comply with this protocol in a comprehensive manner, promoting good practices with a view to developing tourism in Torres del Paine.

6.1 Legal aspects

6.1.1 National Classification Registry:

Tourist service operators (tour operators, guides, and trackers) must register their adventure tourism services in accordance with Article 34 of Tourism Law No. 20,423. To register this activity, puma viewing operators must be registered in the National Registry of Adventure Tourism Providers of SERNATUR and comply with the safety standards established in Article No. 38 of the same law, and in the Chilean Standard 3069/2007 on the observation of flora and fauna (clause 4.6). Failure to register in the Registry, and in accordance with the provisions of Article No. 50 of Tourism Law No. 20,423, carries a risk of a fine of between 5 and 20 UTM, and between 25 and 50 UTM if they do not comply with the safety standards stipulated by the Law.

6.1.2 Tourism Ordinance of the Municipality of Torres del Paine:

Adventure tourism service providers operating in the communal territory can obtain accreditation by complying with current regulations and the specific requirements for each activity. Tour operators can also register. This accreditation is not mandatory; however, accreditation provides benefits and adds value to their activities by demonstrating the quality, professionalism, and safety of their offerings.

6.1.3 Compliance with specific regulations:

In addition to the above, all service providers who carry out adventure tourism activities must comply with current tourism regulations, which include:

- a) Law No. 20,423 on Tourism.
- b) Decree No. 19. Regulation of Law No. 20,423 on tourism.
- c) Chilean Standard NCH N°3069 OF 2007 (Official Chilean Tourism Standard - Observation of Flora and Fauna).
- d) NCH N°2950 OF 2005 (Official Chilean Standard for specialized tourism guides).
- e) NCH N°2975 2006 (Official Chilean Standard for Adventure Tourism - hiking).
- f) NCH N°2985 2006 (Official Chilean Standard for Adventure Tourism - trekking).

6.2 Promotion and marketing of the activity

6.2.1 Product/service information platform:

In accordance with Chilean Standard No. 3069 on Observation of Flora and Fauna, every entity offering guided flora and fauna observation services must “have and advertise a website where the individual or company can be located.” As part of this protocol, it is recommended that the website also clearly indicate the protocols, policies, and recommendations related to the activity, in addition to an easily disseminated digital version. This would allow tourists to obtain prior information and understand the importance of following conservation standards and responsible behavior during the viewing.

6.2.2 Means of evaluation by passengers:

Se sugiere que cada operador turístico tenga una cuenta en Trip Advisor o similar. Esto permitirá a los clientes evaluar el servicio públicamente, sirviendo así de guía para futuros pasajeros (NCH N°3069).

6.2.3 Regulation of advertising:

We propose that puma viewing tours should be promoted with images and messages that reflect responsible and safe practices. This includes advertising through any online medium (website, social media, WhatsApp, or others) as well as in print (brochures). These regulations guide tourists' expectations, educate them about good practices, and reduce pressure from tourists on tour operators. These proposals include:

- Avoid posting photographs or videos that depict tourists engaging in inappropriate behavior that goes against the provisions of this protocol.
- Maintain an internal sales protocol and the signing of an Informed Consent by the client, where the limitations of the sightings are indicated, without guaranteeing specific sightings or particular situations (see section 6.3).
- Advertising must state that the activity is regulated by law and that its operator or agency adheres to the current protocol, which must be accessible and downloadable in Spanish and English for tourists.
- It is recommended to use institutional advertising to highlight good and bad practices, promote messages from the Municipality of Torres del Paine, and develop collaborative communication campaigns to ensure a unified message for those adhering to the protocol.

6.3 Pre-sighting protocols

6.3.1 Informed consent:

Every adventure tourism service provider must have a signed consent document from each tourist (NCH N° 3069). This consent must be unique, comprehensive, clear, accessible, and adapted to different audiences. It must be written in language easily understood by tourists. It must be applicable to all providers of puma viewing services, ensuring they comply with the same safety and conservation standards. It must also guarantee that all specifications regarding the measures, criteria, and specifics of the activity are communicated at the time of booking, so that paying tourists are aware of the current regulations in advance, and have the option to cancel their reservation in advance if they do not agree with them.



At a minimum, it is suggested that the informed consent document consider the following aspects:

- **Initial safety briefing:** understood and accepted by the tourist.
- **Associated risks:** detail the inherent risks of the activity, both for tourists and pumas.
- **Puma sighting guarantee:** clearly state that the activity does not guarantee sightings of pumas, specific individuals, or any particular behavior.
- **Rules of conduct:** clearly explain the rules that must be followed, which are defined in this protocol.
- **Conservation objectives:** include an explanation of how responsible tourism contributes to the protection of flora, fauna, pumas, and the ecosystem.
- **Consequences of non-compliance:** detail penalties or measures if tourists do not follow established rules.
- **Signing of the agreement:** the informed consent must be signed by the tourist, as proof that they understand and accept the conditions of the tour offered.

6.3.2 Registration and risk acceptance form:

In accordance with the provisions of Article 34, Section 2.2 of Decree 19, Regulations of the Tourism Law, "Adventure tourism service providers must prepare and provide each participant with a registration document or form, which must be completed as appropriate and signed by the participant before the start or development of the activity. It will be the participant's responsibility to sign the registration and risk acceptance form, without which they will not be able to participate in the activity. This form must contain, as a minimum, the following information, which must be available in at least Spanish and English:

- a. Name, Identity Card or passport, age and nationality of the participant;
- b. Activity and/or program, date, departure and arrival time, and location, including the estimated route where the activity or program will take place;
- c. Participant's contact information, in case of emergency;
- d. Participant's statement of experience, in relation to the activity or program;
- e. Participant's health declaration (allergies, contraindicated medications, special regimen, recent operations, pregnancy or other), in accordance with the requirements of the activity or program;
- f. Name and Identity Card of the guide responsible for the activity or program;
- g. Insurance involved, if the participant has any;
- h. Declaration of awareness of the risks involved in the activity or program in which you participate; and
- i. Participant's signature. For minors under 18 years of age, signature of parent or legal guardian. The aforementioned form must be stored either in physical or digital format for a minimum of two years, counting from the date of signature.

6.3.3 Education and awareness

- **Conducting a briefing or initial talk:**
Prior to the first day of the activity, and in accordance with the provisions of Annex A of Chilean Standard 3069 on Observation of Flora and Fauna, an informative talk must be held in which the activity plan, precautions, and parameters under which it will be carried out, as well as safety and environmental parameters, are presented. Additionally, it is mentioned that it is necessary to summarize the main regulations for the activity, and it is also recommended that visitors be provided with recommendations for conduct in order to avoid





potential incidents with the wildlife present, specifically the puma. Furthermore, the protocols to be followed in case of risky situations or puma attacks should be clearly stated.

6.4 Protocols during the sighting

6.4.1 Education and awareness

- **Conservation narratives for awareness raising:**

During the tour, we propose incorporating information about the biology, ecology, and behavior of the puma, as well as its conservation issues locally and in Patagonia, seeking to educate and contribute to an informed and conscious tourism experience. This narrative will also seek to create an emotional connection between the tourist, the species, and its conservation.

- **Conducting debriefing or summary talk of the day:**

After the viewing activity, a feedback session should be held with the group to discuss the day (NCH N° 3069), emphasizing possible shortcomings during the activity, areas for improvement, and addressing unwanted visitor behavior. This session should be held daily as a way to improve the activity and service.

6.4.2 Clothing and equipment:

In accordance with the provisions of Article 34, Section 3 of Decree No. 19, Regulations of the Tourism Law, service providers must wear clothing and equipment appropriate for the activity to be provided. In the case of this protocol, this requirement for equipment and clothing also extends to tourists. To ensure that visitors arrive prepared, the operator must provide advance information on clothing and equipment at the time of booking the tour, either through email, a newsletter, or through the tour guides.

In the specific case of adventure tourism for Observation of Flora and Fauna (NCH N° 3069), it is recommended:

- Wear clothing in neutral, muted colors or with camouflage patterns that blend in with the natural landscape. This type of clothing helps minimize visual disturbance, avoiding attracting the attention of wildlife and reducing the possibility of disrupting their natural behavior, such as hunting or moving.
- Avoid wearing clothing made of materials that make loud noises, such as rigid raincoats, as these sounds can distract or stress the animals. It is also recommended to avoid wearing ponchos or other clothing that moves easily in the wind.
- Wear specialized clothing for the weather conditions found in the area where the activity will take place. This includes layered thermal clothing designed to withstand sub-zero temperatures, including gloves and a hat, as well as a water-repellent and wind-blocking third layer. Wear high-top hiking shoes, sunscreen, and sunglasses, especially in summer and on snowy days.
- Long-distance communication radios (guides and trackers only): Each guide and tracker must have a radio device (NCH N° 3069) available to communicate with their team, other guides in the area, police, and protected area staff (CONAF/SBAP) if necessary. According to regulations, each tour operator must have their own legally registered frequency so that contact can be quickly established in the event of emergencies or eventualities.

The use of other types of emergency communication devices, such as cell phones (in locations with a signal), satellite phones, or InReach or Spot devices, is also recommended.

- Distance meter (guides and trackers only): each guide and tracker must have an electronic device designed to measure distances, in order to calculate the distances from the group to the animal and thus respect the minimum recommended sighting distances (see the following section).
- Binoculars (guides and trackers only, recommended for tourists) (NCH N° 3069): to observe wildlife without having to approach it at a distance less than recommended. Having this type of equipment will improve the visitor experience by discouraging dangerous approaches and, in turn, will allow the guide and tracker to evaluate the puma's behavior from a distance, helping them identify potential stressful situations or situations that could pose a risk to both people and the animal.
- Whistle or other sound device (guides and trackers): In the case of close encounters with pumas that could be potentially dangerous to people and as a deterrent, it is recommended that a whistle or other sound element that emits an annoying noise be used to discourage pumas from approaching.
- First aid kit (guides and trackers): This equipment is required by law to treat minor or moderate injuries and medical conditions quickly and effectively, until professional medical attention can be received based on NCH N° 3069.

6.4.3 Minimum observation distance:

Understanding puma behavior is crucial to maintaining a safe distance. The guide must recognize when a puma feels uncomfortable with human presence. While this protocol suggests minimum distances that should not be exceeded, these may vary depending on the individual and the specific situation.

In accordance with the above, in the case of puma individuals that are not known to the guide and/or tracker, it is recommended to first evaluate the situation and the animal's behavior, and in the event of any sign of stress, change in behavior or discomfort on the part of the animal, the recommendation is to move the group away by increasing the suggested distance, or to abandon the area.

- Base observation distance: In order to carry out a safe viewing activity for both pumas and people, it is recommended that all viewing activities start from **a minimum distance of 50 meters** from the animal which must be accurately measured with a distance meter. Because different individuals may display different types of behavior in the presence of humans, especially unwanted behavior from the animal, it will be at the guide/tracker's discretion whether this distance should be increased, but never decreased. To determine this, it is always necessary to have registered, trained, experienced guides capable of interpreting the behavior of the different pumas in each sighting (NCH N° 3069).

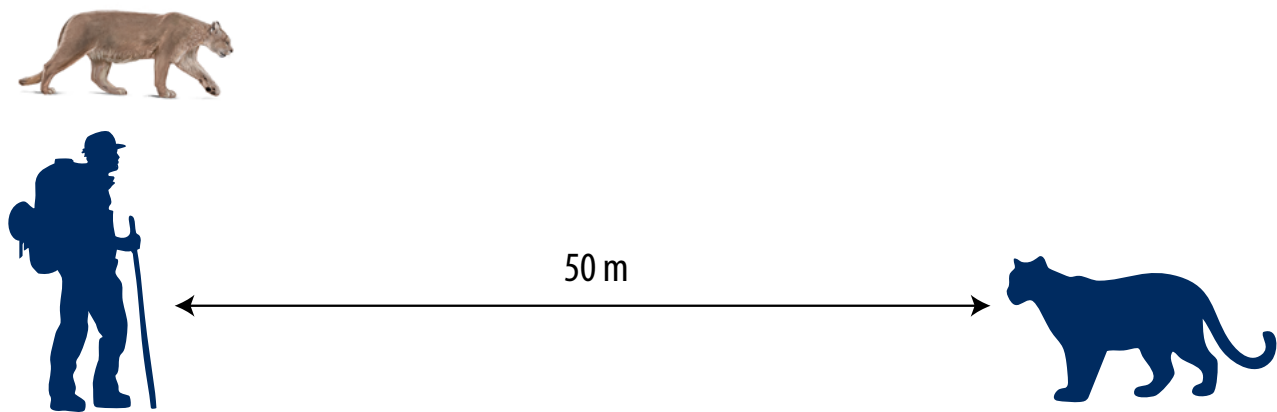


Figure 1: Minimum observation distance of 50 m. Be aware that under certain situations this distance must increase to 100 m (see next paragraph)

- Tracking distance: For animal tracking activities, and when the animal is moving and the guide/tracker is alone or with a group of tourists, the **minimum distance between people and the puma is recommended to be increased to 100 meters.**
- Distance in special situations:
 - When the puma is tracking, stalking, or hunting its prey, the **recommended minimum distance is 100 meters.**
 - For any sighting of a female with her young, the **minimum recommended distance is 100 meters.**
 - For pumas that are engaged in courtship activity, the minimum recommended distance is 50 meters.
 - For pumas feeding on prey, the **minimum recommended distance is 50 meters.**
 - In the case of sightings of interaction between several puma individuals (not considering females with cubs), the **minimum recommended distance is 50 meters.**
 - In the case of dens, that is, sightings of litters of cubs that are not yet mobile and whose mother must keep them in a shelter (which may be a thicket, fallen tree trunks, caves, among others), **all approaches and viewings for tourism purposes are prohibited.**

6.4.4 Close-range encounters:

It is common for puma encounters to occur at close range in the area. Although the sighting is taking place at the stipulated distance, the puma could approach the group and remain just a few meters from stationary tourists.

In the event of this type of event, the guide should always guide the group away from the puma's path, walk slowly in a compact group, and back away, never turning their backs on the animal, and always trying to maintain a **minimum distance of 50 meters** or more between the group and the puma. In this regard, it is important that, as much as possible, the guide be able to anticipate the puma's movement and warn the tourists in order to carry out the procedure as safely as possible.

In critical cases where, despite this distancing, the puma continues to approach the group, a **critical distance of 5 meters** is established. If this distance is reduced, scaring maneuvers should be performed to maintain safety for all, including loud shouts, whistles, clapping, and waving arms and clothing to prevent the animal from approaching the group further. These types of maneuvers should only be performed by the guide/tracker, always keeping themselves between the tourist group and the puma.





6.4.5 Sighting time:

Within puma viewing activities, observation periods should be defined, allowing rest periods for the animal and where no puma tracking or observation is carried out. This should take into account the marked differentiation in day length between seasons in the southern regions of the country.

In the case of the Magallanes Region, and considering the marked difference in daylight hours between the summer and winter months, puma viewing should only be carried out during the following times:

- **Summer, between the months of November and April:** 6 hours after sunrise, 6 hours before sunset.
- **Winter, between the months of May and October:** 3 hours after sunrise, 3 hours before sunset.

Any time outside the established range will be considered a rest period from the activity, with no viewing activities taking place.

6.4.6 Group restriction:

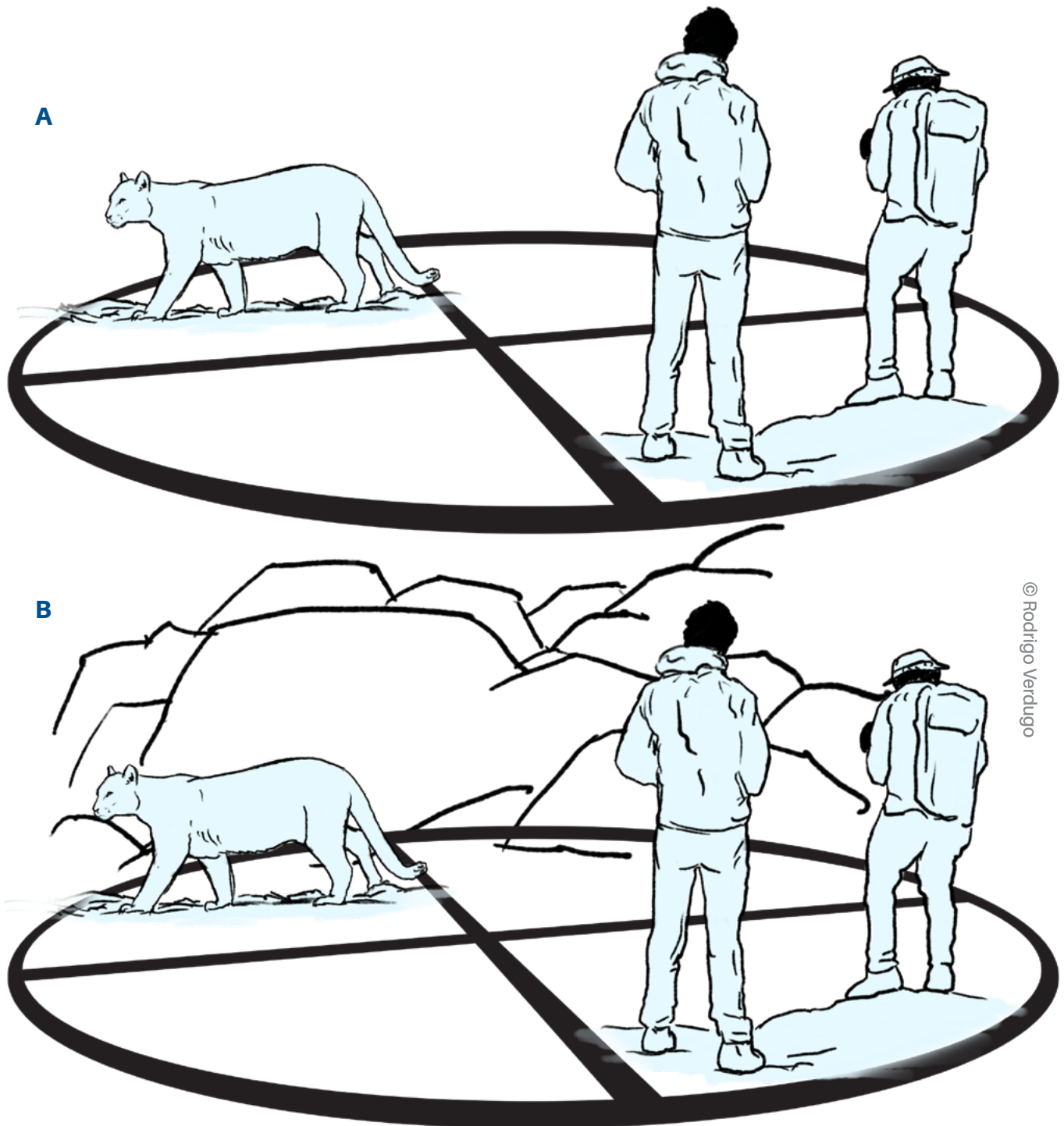
- Maximum number of people and ages:
 - This must be the maximum number of people per guide according to current regulations NCH N° 3069 (Point 4.6.1.), for marketable Wildlife Observation activities, which in its update will consider six tourists/visitors per guide, and its compliance is mandatory.
 - For a single viewing event, a maximum of 12 tourists will be allowed, in addition to the corresponding guides and trackers.
 - Similarly, according to the same regulations, in section 4.6.2, all children under 14 years of age must be accompanied by their parent or guardian, and those between 14 and 16 years of age must have a simple permit from a parent or guardian. However, due to the risk associated with carnivore sightings, all children under 14 years of age are not allowed to participate in a viewing tour.
 - In the event that an additional group joins the sighting, which in total exceeds 12 tourists, overlapping with the initial groups, a mandatory rotation system is contemplated in which a 40-minute overlap counter will be started, after which the group or groups that have been on the sighting the longest must leave the site to make room for the new group or groups that have arrived at the site.

6.4.7 Group arrangement:

To avoid cornering the animal and to provide sufficient space and a safe escape route for the puma(s) during the viewing, the group **should not exceed an area that covers an angle greater than 90° of an imaginary circle around the animal**. Within this space, the group(s) must remain united and not disperse. This also allows the guides to maintain control and monitor the behavior of both the tourist group and the pumas, ensuring the safety of all.

If the sighting occurs in a location where the puma already has a natural barrier preventing an escape route, this must be subtracted from the 90° space, always keeping three-quarters of the animal's full imaginary circle available as an

escape route. If this escape route of the **three-quarters of the full imaginary circle** cannot be secured due to obstacles or natural barriers, the viewing must be abandoned.



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Figura 2: A) Three-quarters of the imaginary circle surrounding the animal is available as an escape route.

B) Less than half of the imaginary circle surrounding the animal is available as an escape route.

Under such circumstances, the group should abandon the sighting.



6.4.8 Authorized sectors:

Wildlife observation activities must be carried out on trails and in authorized and established areas, avoiding critical areas to protect key habitats and reduce pressure on pumas and other wildlife. The establishment of such areas must be clearly defined by the personnel in charge of the area, whether it is a private property or a protected area managed by SBAP. Access to these areas is prohibited without explicit permission.

Stopping motor vehicles in unauthorized locations on public roads is prohibited under Traffic Law No. 18,290. This includes roads within protected areas of the State. Therefore, an authorized, designated, and signposted location must be found for this purpose.

Considering that wildlife are frequently observed on routes through and around the State's protected areas, it is important to highlight the need to establish safe parking, detention areas, and/or observation areas for the wildlife present and for visitors, whether or not accompanied by a guide or tracker.



6.4.9 Using lures and baits:

According to Hunting Law Regulation No. 19,473, Article 25, letter e), the use of bait is prohibited for any hunting or wildlife capture activity. This protocol also includes this prohibition, including any type of bait, attractant, and lure, whether visual, odorous, or food.

6.4.10 Nighttime puma search:

No puma viewing activities involving tourists are allowed at night. However, it is proposed that puma viewing by the guide or tracker without tourists and always in a vehicle may be permitted **during the two-hour period before sunrise**. For this type of activity, the use of spotlights or lights that could disturb the behavior of the wildlife present is prohibited, so the use of thermal imaging goggles is recommended.

For activities within state-protected areas, **established schedules** for both vehicles and traffic within trails must be respected.

6.4.11 Interaction with wildlife:

It is recommended that throwing anything at or near pumas be prohibited, unless there is a risk to humans. Furthermore, it is advised not to eat or smoke during sightings.

6.4.12 Alteration of wildlife habitat:

It is recommended that environmental disturbances be minimized, including no uprooting or moving of trees, branches, sticks or stones. It is also important not to disturb animal carcasses or remains or interfere with their habitat, as this can affect their natural behavior and ecosystem dynamics.

6.4.13 Keep quiet and calm:

Avoid loud noises, sudden movements, and behaviors that may disturb pumas (NCH 3069). If sightings are made from a vehicle, it is also recommended to turn off the engine, turn off the vehicle's speakers, and not use the horn.

6.4.14 Use of cameras and drones:

It is suggested to avoid using camera flashes or any devices that emit annoying noises, as these can disturb the animals.

The use of drones for recreational tourism purposes is prohibited without specific authorization (DAN 91, DGAC). In the case of protected areas of the SBAP, current regulations and rules should be consulted.

6.4.15 Use of communication radios:

If you see a puma, whether from a vehicle or on foot, it is recommended to lower the volume on your radio to avoid disturbing the natural behavior of both the puma and other species in the area.



6.5. Training and accreditation of specialized wildlife observation guides, with a focus on pumas

The current regulations (Tourism Ordinance of the municipality of Torres del Paine) establish as a specific requirement for this type of accreditation a certificate of at least two years of experience in the field of flora and fauna observation, in addition to the completion of the online test based on a question bank co-constructed by CONAF, the Municipality of Torres del Paine, tourism stakeholders and academia.

To complement and strengthen the professionalization of this activity, it is proposed to gradually add the following as part of the guide accreditation system, informed by and supported by academia:



6.5.1.1 Declaration of duties and responsibilities of the accredited person

Some of the proposed commitments are:

- a) Act as guarantors of compliance with the protocol and regulations in force in the practice of the activity through a letter of commitment to compliance.
- b) Impeccable conduct and reputation accredited by consultation with the Superintendent of Torres del Paine National Park.
- c) Responsibility for disseminating information related to the activity on its social networks, with random checks by the Municipality.
- d) Participation in community engagement activities, among others. Failure to comply is subject to possible warnings and/or sanctions.

6.5.1.2 Approval of a local flora and fauna course taught by an institution validated by academia

It is proposed to conduct a theoretical and practical course specifically on local flora and fauna, with special attention to puma viewing, in accordance with the provisions of the update process for the Chilean Standard No. 3069. The course should last at least 80 hours, with a theoretical exam weighted at 30-40% of the grade and a practical field exam weighted at 60-70%.

The minimum suggested content for this course should be designed to ensure that guides, trackers, or anyone taking this course are trained in topics related to the specific ecosystem in which they will operate and the species with which they will be working. Many tourists are interested in learning during the tour, and the staff in charge should be able to answer questions about the biology, ecology, and behavior of local wildlife, specifically the puma, as well as about the ecology of its habitat and the conservation of the species, including in situ conservation initiatives in the geographic area where the activity takes place. Furthermore, they should adopt skills that focus on visualizing and understanding the specific behavior of the puma, and be able to prevent and warn visitors about potential risk situations for both wildlife and people.

6.5.1.3 Psychosocial skills and leadership

It is proposed to incorporate content into the course that addresses social and leadership skills. In this regard, the guide/tracker must be able to explain the rationale behind the regulations, supervise tourists, and communicate effectively during the sighting activity and during an emergency should one arise. It is essential that those who serve as guides be able to communicate effectively in their native language and in the most common language of the tourists at the site, or have a translator who serves as a bridge between the guide and the tourist. In matters of leadership, the guide must enforce protected area regulations and national laws; personnel should be able to supervise tourists without prioritizing their satisfaction over the protection of the pumas. Training should include techniques for dealing with problematic tourists who resist their authority and may aggressively pressure them to break the rules.

As a short-term measure, in the 2025 ordinance update, a set of 40 questions taken from the protocol will be added to the online accreditation test question bank. These questions will assess competencies in this activity across all areas, considering that many sightings are carried out by chance and not always with specialized guides. With this action, we will begin educating tourism staff to be accredited or renew their accreditation.



6.5.2. Validation process

For guides with proven track records, a two-season validation process is proposed, including gradual awareness-raising and the implementation of courses and requirements at the municipal level.

6.6 Emergency management

Therefore, the provisions of the Tourism Law 20,423 and Supreme Decree No. 19 of 2019 of the Ministry of Economy, Development and Tourism must be taken into consideration: *“Adventure tourism service providers must have suitable personnel for the development of each of the adventure tourism activities they carry out... The personnel in charge of carrying out each of the adventure tourism activities must be capable of managing the safety of the group and making decisions to ensure this is fulfilled... The adventure tourism service personnel must have full knowledge of the activity’s technical sheet; registration and risk acceptance form, risk prevention and management plan, emergency response plan; and equipment maintenance plan for each of the activities they practice.”* In addition to the provisions of Chilean Standard No. 3069 Of. 2007 on Observation of Flora and Fauna, in its clause 4.2-4.6 and its updates, and Chilean Standard No. 2950 Of 2005.

In addition, the Municipality of Torres del Paine has established the COGRID (Disaster Risk Management Committee), which has established Risk Plans and Emergency Plans, which must be familiar to all those working in the area.

It is suggested to take into consideration the differentiation of two types of emergencies:

1. Those that directly affect pumas (road accidents, hunting, among others).
2. Those that directly affect people (traffic accidents, trauma, and heart attacks due to puma sighting).

6.6.1 Emergencies that directly affect pumas

In the event of an accident involving harm to a puma, an alert must be generated to CONAF (or SBAP, when they are the administrators of the protected areas) or the person in charge or administrator of the private area where the activity is taking place, so that they can inform SAG, thus reinforcing the call to action and determining the required response.

It is important to note for both guides and tourists, that the viewing activity takes place in a natural area, where intervention could impact the social development of pumas and wildlife in general. Additionally, it is important to note that there is no specialized wildlife rehabilitation facility in the region.

6.6.2 Emergencies that directly affect people

On the route:

- Notify the police or the Villa Cerro Castillo Health Post directly (the police or the post will contact the Municipality).
- The Municipality activates COGRID; in the event of a serious emergency (requiring evacuation or air evacuation), communication is made at the provincial or regional level.
- First aid if there is trauma (in all cases, always notify the competent authorities to activate protocols).
 - Infrastructure for emergency communications:
 - Torres del Paine National Park: Laguna Amarga Gate, Administration (Villa Monzino) and Serrano Gate.
 - Municipal Health Post of Villa Monzino.
 - In the case of activities carried out on private land, it is recommended that the locations of emergency communications infrastructure, if any, be clearly identified.

In Torres del Paine National Park:

- Notify CONAF, who will be responsible for escalating the emergency to the communal COGRID.

It is suggested that an official dissemination group be created to enable effective and efficient emergency communication with those who adhere to the protocol, both public and private, coordinate radio channels, and ensure that all transportation has communication.

6.7 Chance encounters

Chance encounters are defined as any puma sighting by a tourist or visitor to the Torres del Paine Biosphere Reserve without the assistance of a specialized guide accredited for puma viewing. Since these types of encounters are common within the area, a series of measures are proposed to minimize the risk to both people and pumas, always maintaining a safe distance and avoiding any approach or movement outside of authorized areas.

Guides who witness these encounters must pay special attention to ensuring that vehicles do not stop in unauthorized locations and that people only disembark at designated points, without allowing people to approach or walk outside these designated areas. The presence of trained personnel ensures proper handling of the situations, helps maintain the pumas' natural behavior, and minimizes risks to both people and animals.

However, a fortuitous event is unexpected and, in most cases, occurs without a guide present. For this reason, tourism awareness education and responsible advertising focused on the public and visitors are essential. Below are recommendations for encounters on foot and in vehicles. ciencia turística y publicidad responsable con foco en la población y visitantes es primordial. A continuación se indican las recomendaciones para encuentros a pie y en vehículos.



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- **Encounters on foot:**

It is suggested that in the event of a chance encounter on foot with a puma, **visitors not accompanied by a specialized guide should leave the area calmly**, making as little noise as possible, walking slowly without turning their backs on the animal, and always trying to leave an escape route for the puma. For visitors traveling in groups, this process should be carried out as a compact group, without separating or dispersing. For groups with children, it is recommended that children be picked up as the group departs.

- **Encounters from a vehicle:**

It is suggested that any chance encounter made from a private vehicle or a tourist company that does not have a specialized guide, **DO NOT STOP**, if the encounter occurs where parking is prohibited (see section 6.4.8).

If a stop is made at an authorized location, **it is recommended that tourists avoid exiting the vehicle**. In these cases, and in accordance with section 6.4.13, it is recommended that the vehicle's engine and speakers be turned off, and the horn unused.









7 Conclusion and final considerations

These proposed guidelines seek to establish regulations for adventure tourism activities involving wildlife observation, specifically pumas, in the Torres del Paine Biosphere Reserve. Collaboration and commitment among authorities, academics, guides, tour operators, private landowners, and local communities are essential for its success.

The objective of this document is to promote responsible tourism that supports the conservation of local wildlife, especially pumas, and ecosystem health by offering an educational and sustainable experience. To ensure the sustainability of puma viewing tourism, it is crucial to practice responsibly and understand how these activities impact animal behavior and well-being. This document is presented and proposed as living document, subject to future modifications based on new knowledge and adjustments that may need to be made to the puma viewing tourism activity once this protocol is implemented.

In this regard, some key questions regarding the proper implementation and future evaluation of this protocol include: How can limits be defined to minimize negative impacts and ensure puma conservation? How does puma behavior vary depending on distance and human activities? Is it necessary to assess stress levels in these situations?

These and other questions are worth answering for future versions of this protocol, always pursuing the overarching and integrative objective of achieving coexistence between puma viewing tourism and the protection and conservation of pumas in the ecosystem.

Research is essential to answer these questions, providing information for setting appropriate limits and adjusting practices. By acting on evidence, we can promote responsible coexistence between humans and pumas, ensuring that tourism contributes to their conservation and benefits all involved.



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9 Annexes

9.1 Implementation and monitoring of regulations

An important aspect to consider in any local regulation is its implementation and oversight. Without a real and efficient oversight system with clear and realistic sanctions, there is a high probability that the regulation will be rendered ineffective and unenforceable in practice. This undoubtedly entails a long-term process, involving tour operators, guides and trackers, owners of private ranches and administrators of public protected areas, as well as state agencies (municipalities, police) responsible for ensuring the regulations are effectively enforced. To achieve this, the following framework is proposed:

- **Implementation of an official regulation:**
Work together with government authorities to incorporate this protocol into Chilean regulations (e.g., municipal ordinance, updated NCH N° 3069, regulations within the SBAP), ensuring compliance through a solid legal framework that allows for sanctioning violations. In the case of private properties, it is proposed that the regulations be applied generally to any puma-viewing tourism activity on the site and be established as internal regulations.
- **Regular inspections:**
A critical aspect concerns oversight activities, which must be clearly defined, involving relevant stakeholders, whether within public or private entities, or through a related entity **specifically** created for the oversight role, which should be independent and neutral. In this regard, periodic audits of the protocol's implementation are proposed, promoting continuous improvements and ensuring its effectiveness.
- **Community participation**
Actively involve local communities in implementing regulations, encouraging self-regulation, thereby ensuring the sustainability of measures and strengthening community development.

9.2. Citizen science and community engagement

- **Collaboration with tourists:**
Engage visitors in scientific data collection through mobile app tools like iNaturalist.org¹, where they can record sightings and key facts about pumas.
- **Education on identification of individual pumas:**
Promote the development of skills among the community of guides and trackers, tourists, and the local community to identify individual pumas via physical characteristics. This active participation not only expands knowledge about the species but also strengthens a sense of shared responsibility for its conservation, encouraging a participatory and conscious attitude toward puma protection.

1. A Community for Naturalists - iNaturalist (inaturalis.org)

- **Digital registration system:**

Promote the use of record-keeping systems like iNaturalist.org or others, where tour operators and guides record each puma sighting, including details such as location, time of observation, number of tourists present, and observed behaviors. This data will help identify activity patterns and visualize potential changes in behavior.

All of these records, in addition to providing valuable information for research and understanding of the species in Patagonia, will allow for data collection and traceability, facilitating the adaptation and continuous improvement of viewing practices and contributing significantly to outreach and education to strengthen awareness and respect for the species.

- **Community engagement:**

Those who adhere to this protocol will be responsible for raising awareness about puma viewing within the community. This will enable schools, municipal and other related officials, and communities within protected areas to learn about their local fauna and the sustainable, respectful, and responsible development of tourism in their territories.

9.3. Potential research to support and adapt guidelines

In order to contribute to the continuous improvement of this protocol and the subsequent adaptation of its guidelines, a series of research proposals are proposed below. In this regard, the involvement of guides, trackers, tour operators, and tourists in the co-creation of this knowledge is vitally important, by contributing to expansion of scientific knowledge and by bridging the gaps currently existing between science and the local community.

9.3.1. Effects of tourism on the behavior and activity patterns of pumas

- *Objective:* Understand how tourism activities may modify puma behavior, schedules, and habituation levels.
- *Study topics include:*
 - Effect of observation time and number of people on puma behavior.
 - Impact of human presence on hunting patterns and during daytime and nighttime activities.
 - Impact of tourism on puma space use patterns.
 - Habituation to human presence and possible risks of negative interactions.

9.3.2 Determining thresholds and safe interaction distances

- *Objective:* Define clear and effective parameters for responsible and safe interaction.
- *Study topics include:*
 - Ethological responses at different distances and field conditions.
 - Establishment of limits on observation time and distance to reduce disturbances.

9.3.3. Physiological assessment of tourism-induced stress

- *Objective:* Determine the physiological impact of tourism and establish safe limits for reducing stress.
- *Study topics include:*
 - Measurement and comparison of cortisol levels from blood and/or feces in pumas under different conditions of tourist presence including time of day, duration and distance.

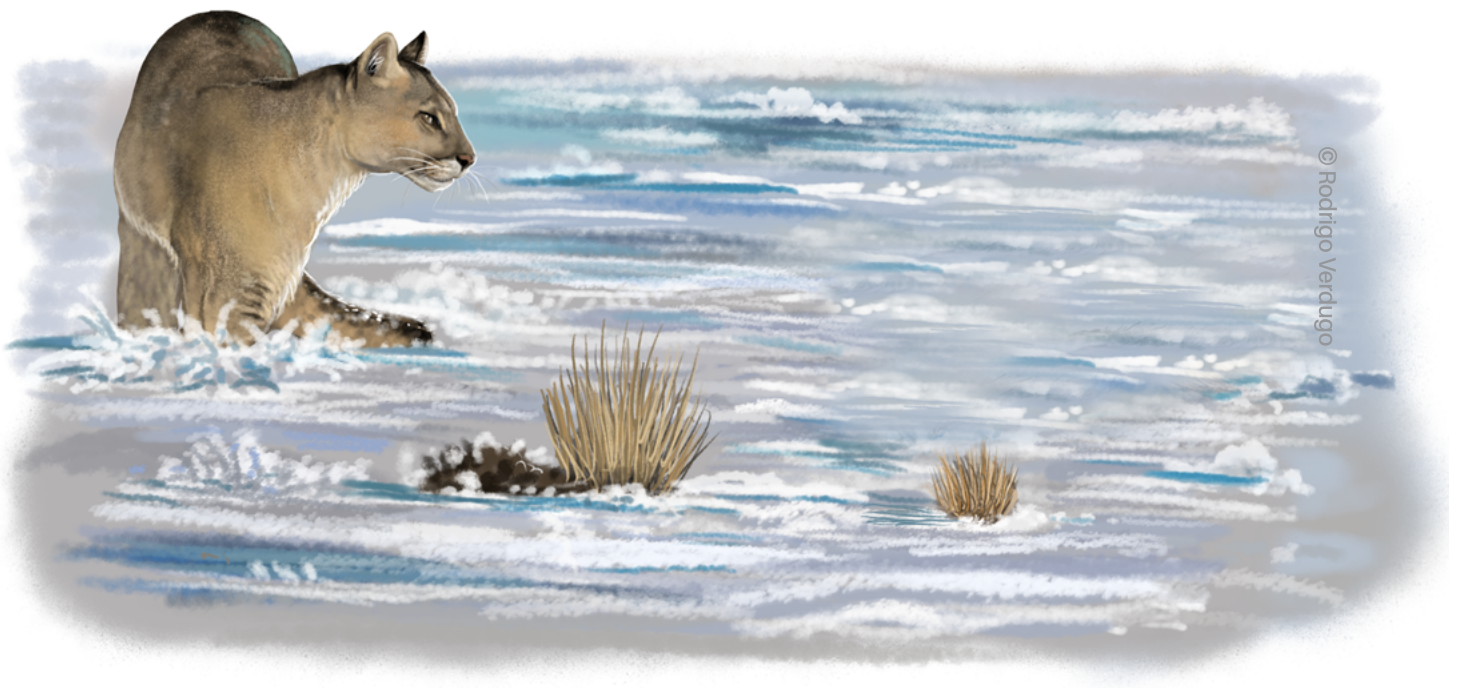


9.3.4. Long-term impact and population modeling

- Incluye:
 - Análisis del efecto de las actividades turísticas continuas en la viabilidad y comportamiento de las poblaciones de pumas.
 - Uso de modelos ecológicos para prever efectos futuros y orientar estrategias de conservación sostenibles.
- Objetivo: Evaluar la sostenibilidad del turismo y diseñar medidas de conservación efectivas a largo plazo.

9.3.5. Comportamiento y prácticas de turistas y guías en relación con el impacto en los pumas

- *Objective:* Improve the training and practices of guides and tourists, promoting responsible tourism that minimizes the impact on animals and ensures the safety of all.
- *Study topics include:*
 - Actions, times and distances taken by guides during sightings.
 - Tourists' and guides' knowledge, perceptions, and compliance with regulations and protocols through surveys, interviews, and direct monitoring.
 - Identification of human behaviors that potentially impact the health and behavior of pumas, to promote responsible practices in tourism activities.



9.4 Links to current laws and regulations



Norm N° 3069 Of.2007 Observation of flora and fauna - Requirements



Norm N° 2950 Of.2005 Specialized tourism guides - Requirements



Norm N° 2975 Of.2006 Adventure Tourism - Hiking - Requirements



Norm N° 2985 Of.2006 Adventure tourism - Hiking or trekking - Requirements



Tourism Law No. 20,423



Traffic Law No. 18,290



Hunting Law No. 19,473 and its Regulations



Regulation and standards for the use of drones DAN 91

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in the Torres del Paine Biosphere Reserve
of the Torres del Paine Municipality**

