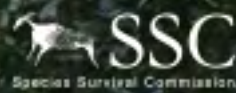




Food and Agriculture
Organization of the
United Nations



IUCN SSC
Human-Wildlife
Conflict & Coexistence
SPECIALIST GROUP

HUMAN-WILDLIFE CONFLICT & COEXISTENCE
/ CASE STUDIES

PLANNING FOR HUMAN-WILDLIFE COEXISTENCE



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INTRODUCTION

The Iguaçu National Park (INP), in Brazil, and its sister park Iguazú National Park in Argentina constitute one of the most significant remaining remnants of the Interior Atlantic Forest on the Argentina-Brazil border. The Iguaçu National Park is a UNESCO World Heritage site of roughly 185 000 ha, located in the State of Paraná, in southern Brazil. The national park contains semi-deciduous, sub-tropical rainforests and many charismatic species, including jaguar *Panthera onca*, puma *Puma concolor* and the tapir *Tapirus terrestris*. The area around the national park has mainly been altered due to heavy logging and the intensification and expansion of agriculture (mostly corn and soy), and rural settlements. On the national park's boundaries, wildlife comes into contact with people with negative interactions arising. In 2018, Projeto Onças do Iguaçu (the Jaguars of Iguaçu Project, and hereafter “the project”) was initiated, to continue the jaguar population surveys carried out by previous projects, such as “Carnívoros do Iguaçu,” and expand outreach activities, including providing technical assistance to ranchers, engaging with local communities and providing education regarding jaguars in the region.



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STATE OF PARANÁ, BRAZIL



IGUAÇU NATIONAL PARK

SOUTHERN BRAZIL



KEY INSIGHTS &
LESSONS LEARNT
ON PAGE II

DURING THE EARLY STAGES OF THE PROJECT, AN EVIDENCE-BASED, STRUCTURED AND PARTICIPATORY DECISION-MAKING APPROACH WAS TAKEN TO PLAN FOR HUMAN-WILDLIFE COEXISTENCE.

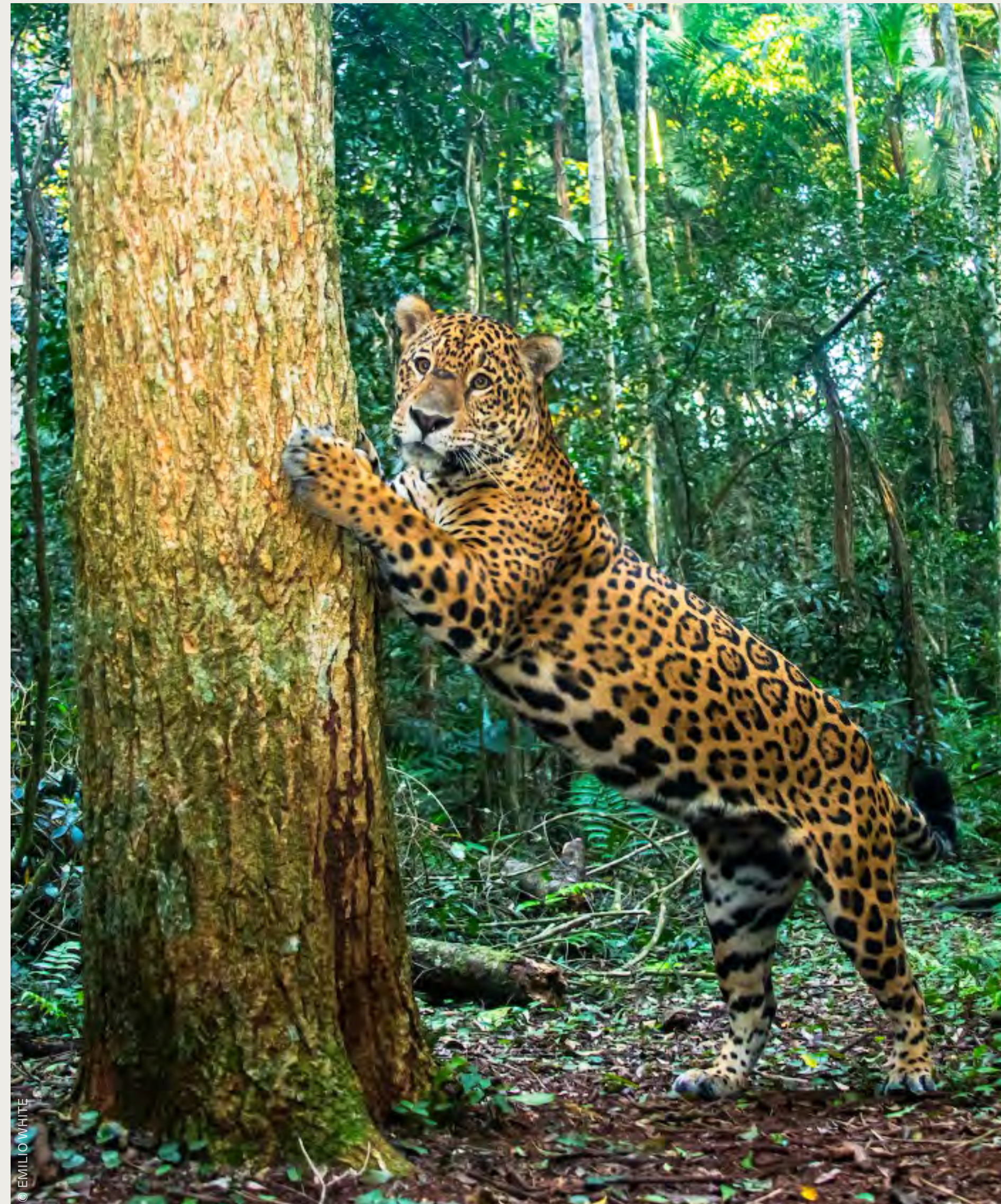
This case study will cover the process of planning for coexistence undertaken by this project.

SETTING THE SCENE

The conservation status of the jaguar is severe in the region. In the Atlantic rainforest, the Green Corridor, a 10 000 km² area that encompasses INP, Iguazú National Park and other protected areas in Argentina and Brazil, is the only region where the jaguar population is demonstrably increasing.

IT IS ESTIMATED THAT THERE ARE NO MORE THAN 300 JAGUARS IN THIS ENTIRE BIOME. THE GREEN CORRIDOR REGION HAS A SUB-POPULATION WITH MORE THAN 50 INDIVIDUALS.

Efforts to protect the jaguar in the region began in 1990, and various projects were implemented for research and conservation purposes, prior to this project. The project is an institutional project of the Chico Mendes Institute for Biodiversity Conservation in partnership with the Iguazú National Park, researching jaguar population trends, diet, movement and prey base. The project also engages with communities residing around the park, through frequent visits



and the transfer of knowledge, with the aim of transforming the communities into proactive actors in jaguar conservation. The engagement consists of conversations with communities about jaguars and their protection, and sharing lessons on livestock management to prevent depredation. The project also provides capacity building for community leaders to become the project's focal points.

Another crucial component of the project is coexistence. This is achieved by better understanding the communities' interactions with jaguars, which then help create and strengthen bonds between the project and communities, allowing strategies that promote coexistence between people and jaguars to be formulated. When a jaguar predares on livestock, a project protocol is in place to provide a quick response, so that the jaguar is not killed in retaliation.

THE PROTOCOL INVOLVES VISITING THE PROPERTY, IDENTIFYING THE PREDATOR, AND WORKING WITH THE OWNER TO IMPLEMENT IMMEDIATE AND LONG-TERM MEASURES TO PREVENT FUTURE ATTACKS, WHILST TESTING NEW METHODS TO AVOID PREDATION.

In 2018, the project conducted a social survey of the rancher's perceptions of and behaviors toward jaguars in the region. When analysing the results and identifying next steps, taking into account the activities already being conducted, it became clear that through better planning on how coexistence could be achieved, the activities planned could be linked with the goals the project wanted to achieve.

ANALYSIS

Although the project had conducted a considerable amount of research and several activities to promote coexistence between people and wildlife (as discussed above), most of which provided interesting findings, the activities had not yet been expressly linked to the project's goals. Therefore, it was hard to determine whether the successful completion of activities had resulted in a better human-jaguar coexistence. It was recognised that there was a need for the project to have a better and more detailed planning process, to ensure activities were going to achieve the projects goals. Therefore, a planning for coexistence process was undertaken.



PROCESS

A stakeholder analysis was initially conducted which revealed who was involved (and how) in the conservation of jaguars, in the Atlantic Forest. Next, in October 2019, a three-day workshop involving the project team was conducted at the INP headquarters. The workshop's goal was to introduce participants to the planning for coexistence process and to guide them through its four fundamental components;

1. SITUATION ASSESSMENT;
2. SCOPING AND GOAL SETTING;
3. SYSTEM MAPPING AND IDENTIFICATION OF LEVERAGE POINTS; AND
4. THE PRODUCTION OF THE THEORY OF CHANGE AND FRAMEWORK FOR MONITORING AND EVALUATING THE ACTIVITIES OF THE PROJECT.



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ACTIVITIES

SITUATION ASSESSMENT

The first activity was to better understand the current situation in terms of the interactions between people and jaguars.

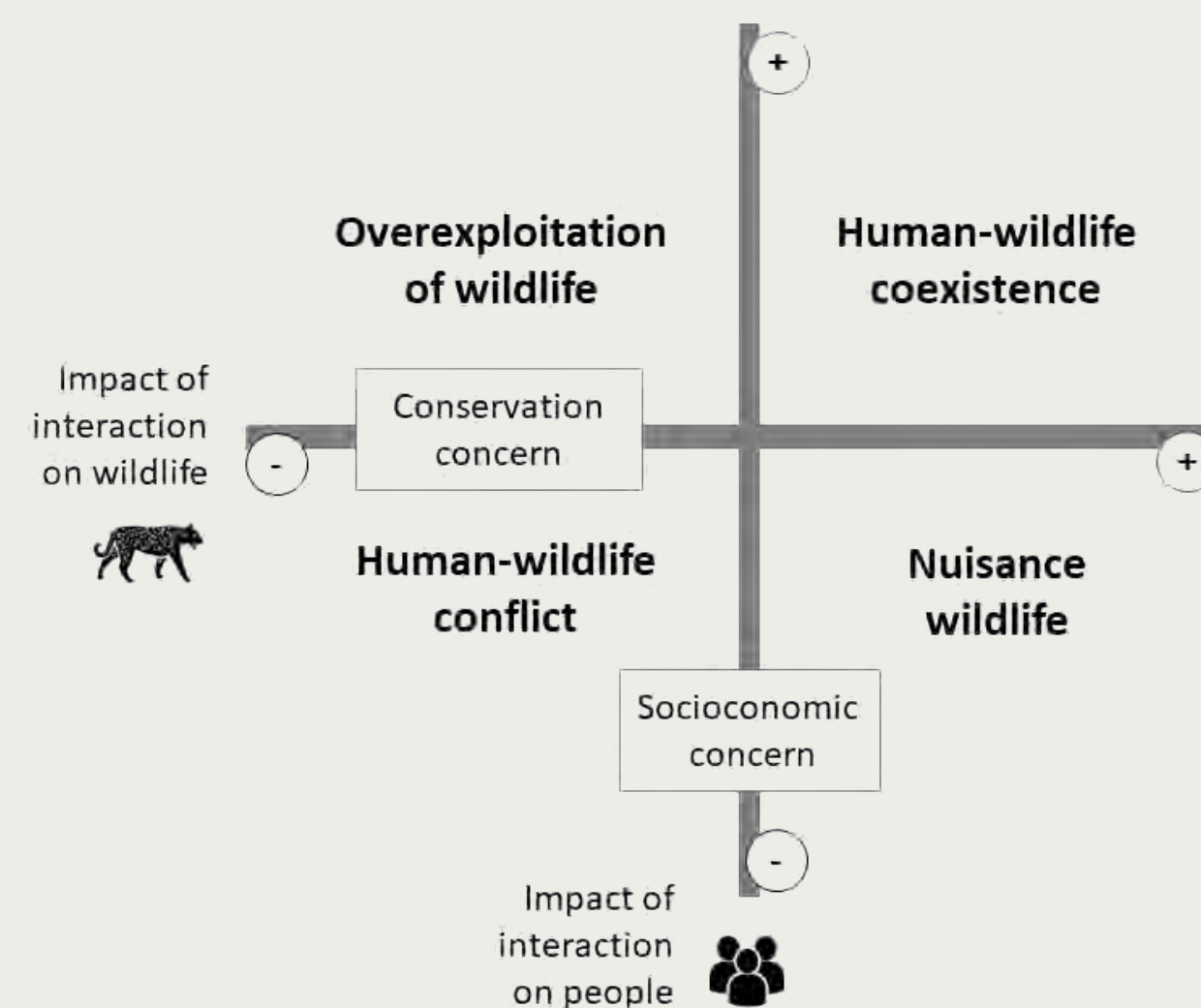
THE PARTICIPANTS IDENTIFIED THE DIFFERENT TYPES OF INTERACTIONS THAT OCCURRED BETWEEN DIFFERENT STAKEHOLDERS AND JAGUARS IN THE REGION, DESCRIBING THE IMPACT OF EACH INTERACTION ON JAGUARS AND ON THE PEOPLE INVOLVED.

Interactions could be negative or positive for both humans and jaguars. The interactions were mapped onto a two-dimensional framework – the human-wildlife interaction (HWI) diagram - with one axis depicting the impact of the interaction on jaguars and another the impacts on people. These two axes combined define the four archetypical representations that cover all possible HWIs, namely human-wildlife conflict (negative for both wildlife and people), overexploitation of wildlife (negative for wildlife and positive for some people), nuisance wildlife (positive for wildlife and negative for people) and human-wildlife coexistence (positive for both wildlife and people).

The human-wildlife interactions diagram allows participants to view the multiple human-wildlife interactions in an



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integrated way and understand that together they make up a complex and dynamic system. The objective of planning for coexistence is, therefore, to 'move' the set of interactions to the right and upwards towards coexistence, which implies a shift from the notion of human-wildlife coexistence as a quantifiable target to that of coexistence as a desired system state.

SCOPING AND GOAL SETTING

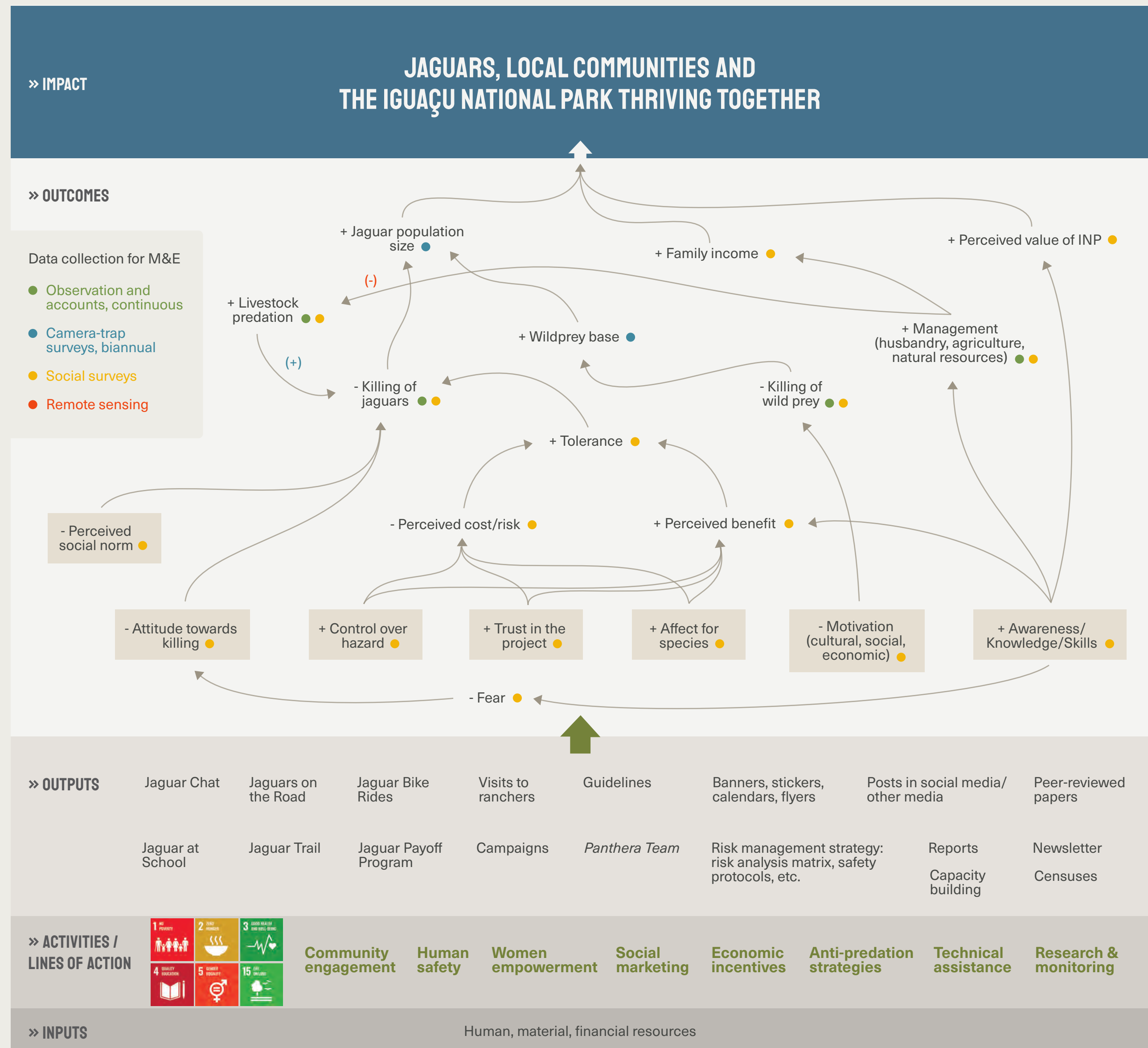
Having mapped out the current situation from the perspective of the participants, six questions were then asked to identify if the situation could be changed and what would be the desirable situation. The questions were: 1) what changes are intended to be caused; 2) what parameters are used to describe the change; 3) what are the target social groups; 4) what is the magnitude of the change; 5) where is the change expected to happen; and 6) when is the change expected to happen? The participants worked through these questions iteratively because the answer to one question can affect the response to another. This exercise identified that the participants wanted to improve the situation on both sides of the human-jaguar relationship (Q1), using jaguar population size and the local attitude toward jaguar conservation to describe the change (Q2), targeting family farmers (Q3), and increase the number of jaguars from an estimated 25 towards the carrying capacity of the population, with a shift in the proportion of farmers favourable to jaguars increasing from 75 percent to 95 percent (Q4), in the 14 municipalities adjacent to the national park (Q5), within five years (Q6). This activity identified the project's *what, who, how much, where, and when*. The next activity involved identifying *how* to cause the change.

SYSTEM MAPPING

Having identified what changes the project wanted to cause, the participants developed a systems map that helped to identify factors that determine the human-wildlife interactions to be changed via multiple causal relationships. Initially, the participants identified factors that are proximate to the interactions. For example, what causes the killing of jaguars is the loss of livestock through depredation, which in turn is caused by inadequate husbandry practices, which in turn is caused by a lack of knowledge. The participants then identified further factors that could indirectly determine jaguar killing – or prevent it – including at the social, institutional, policy or societal levels. For example, environmental policies could change, influencing the national park and, subsequently, its visitation by tourists which may affect the perceived benefits of living with wildlife.

ONCE THE PARTICIPANTS HAD IDENTIFIED ALL THE POSSIBLE RELATIONSHIPS AND HOW THEY INFLUENCED EACH OTHER, POTENTIAL LEVERAGE POINTS WERE IDENTIFIED, WHERE INTERVENTIONS COULD BRING ABOUT THE CHANGE MORE EFFECTIVELY.

The participants could therefore identify which factors were likely to bring about the desired change most effectively.



THEORY OF CHANGE AND M&E

After completing the system map, the participants needed to determine how the desired change was expected to happen by creating a Theory of Change (ToC).

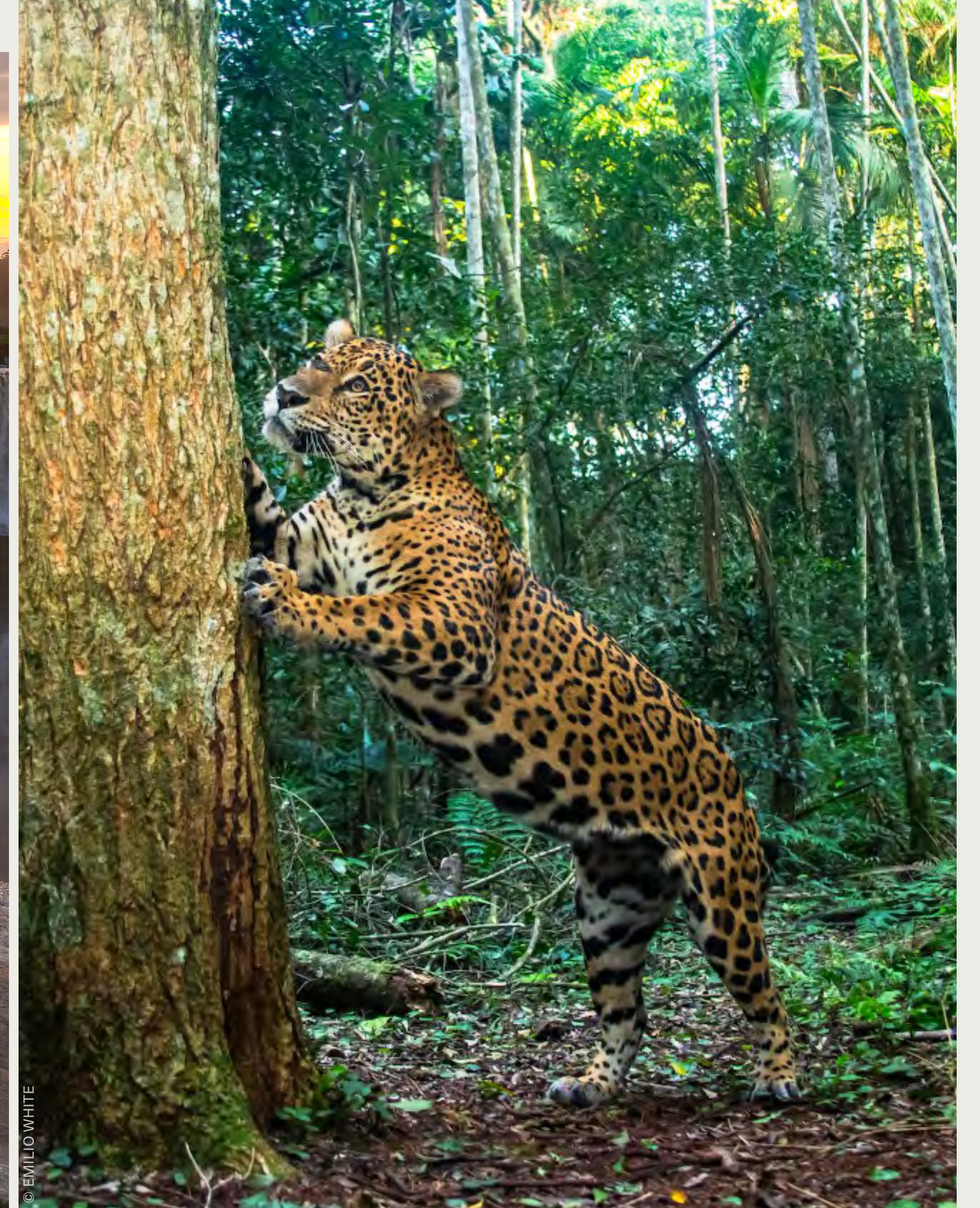
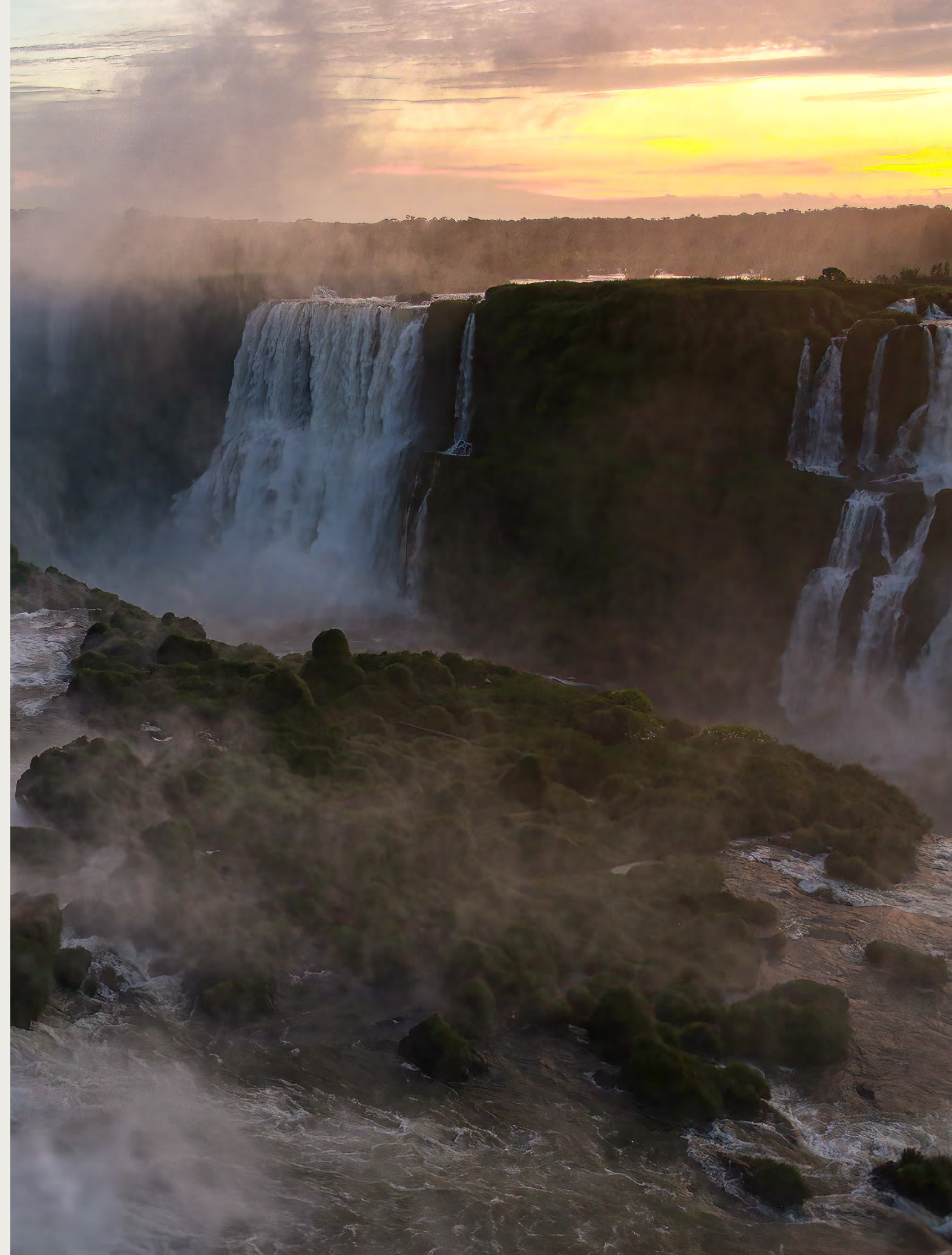
THE TOC HELPED ILLUSTRATE THE LINKS AND SEQUENCE OF EVENTS NEEDED FOR AN ACTIVITY TO RESULT IN THE DESIRED CHANGE.

The participants identified a specific pathway, and taking into account what the project wanted to achieve and the activities it was already conducting, a detailed results chain was developed connecting the activities to outputs, to short-term and long-term outcomes, and finally to an intended impact. This activity also informed the data that must be collected for monitoring indicators in order to determine whether the activity had been successful. By determining the outcomes, targets could be identified for each outcome, realistic timeframes could be established, and budgets could be attributed to each activity.

OUTCOMES

Through the planning for coexistence process, the project could link its activities to the desired goals of the project, while identifying what information needed to be collected to monitor the project and evaluate whether it had been successful.





KEY INSIGHTS & LESSONS LEARNT

01 | CONNECT ACTIONS TO GOALS

The project found it was crucial to connect the activities being conducted with the defined goals directly. Before conducting this planning process, some activities were conducted that were interesting from a research perspective but could not be linked to the goals of the project and were therefore potentially unnecessary.

02 | PLAN FIRST

The project had already initiated activities before starting the planning process. Although it was not impossible to conduct the process after beginning the activities, the project felt it would be more powerful if extensive planning were conducted before executing activities. Strategic planning is paramount.

03 | START SMALL

Although the planning process involved a small group of stakeholders directly involved in implementing the project, it was advantageous in the initial stages because involving many impacted stakeholders, may have made the initial process unmanageable.

04 | FOCUS ON VERIFIABLE CHANGE

Having to identify indicators and respective means of verification for each outcome causes participants to move from outcomes that are vaguely defined and challenging to evaluate (e.g., change culture) to more specific and measurable outcomes (e.g., increase tolerance).

05 | STAFF ALIGNMENT

For the activity to proceed smoothly, the staff involved needed to be aligned with the project's goals.

06 | BASELINE DATA

Before initiating the planning process, the project had already gathered a large volume of social and ecological data, which helped inform the current situation between people and jaguars. This baseline information also meant that determining what could be achieved was realistic, and data was available to compare against at the end of the project to evaluate the project's success (note: having baseline data before planning is not mandatory and many projects will lack it, in which case planning is still important to identify gaps).

07 | IDENTIFY GAPS

The activity of planning allowed the project to identify any knowledge or capacity gaps and provided a framework for the project to evolve through adaptive management.

08 | TOC BRINGS TEAMS TOGETHER

The ToC process allowed the project team to come together as a group to think, discuss and learn from each other and created a sense of ownership over the process, strengthening the project and the team.

FURTHER INFORMATION

- **Planning for human-wildlife coexistence: conceptual framework, workshop process, and a model for transdisciplinary collaboration.** *Frontiers in Conservation Science.* 2021
- **Stakeholder mapping as a transdisciplinary exercise for jaguar conservation in the Brazilian Atlantic Forest.** *Conservation Science and Practice.* 2022

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ABOUT THE CASE STUDIES

The **Food and Agriculture Organisation of the United Nations** (FAO) and the **IUCN SSC Human-Wildlife Conflict & Coexistence Specialist Group** (HWCCSG) have jointly developed a set of case studies with the aim of covering the process projects have taken to manage various aspects of a human-wildlife conflict & coexistence situation. This case study is one of many that will be used to illustrate key components of the **IUCN SSC Guidelines on Human-Wildlife Conflict & Coexistence**. The published case studies can be found in the **Human-Wildlife Conflict & Coexistence Library**.

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Contact:
Forestry Division – Wildlife and Protected Areas Management
<http://www.fao.org/forestry/wildlife>
Food and Agriculture Organization of the United Nations
Rome, Italy



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