



# CONNECTING THE SPOTS

## THE SOCIOECONOMIC IMPACT OF JAGUAR HABITATS IN LATIN AMERICA

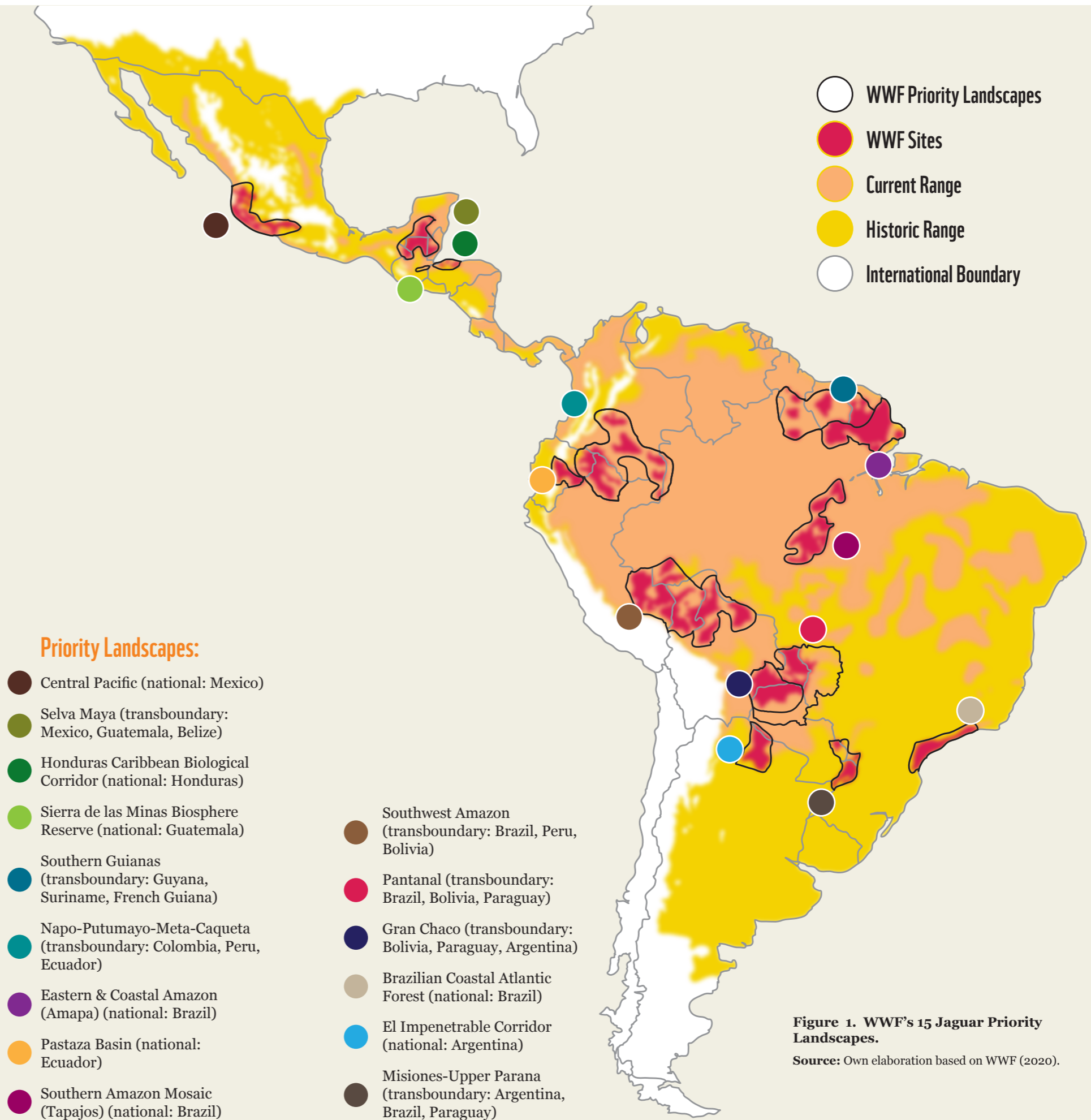
# EXECUTIVE SUMMARY

**The jaguar –the largest feline native to the Americas and an apex predator– plays a crucial role in maintaining healthy ecosystems.** Revered across various cultures for their spiritual and symbolic value, these top predators contribute to the stability of ecosystem structures and help regulate the abundance of other species. Their widespread presence across multiple habitats in 18 Latin American countries helps sustain vast and diverse ecosystems.

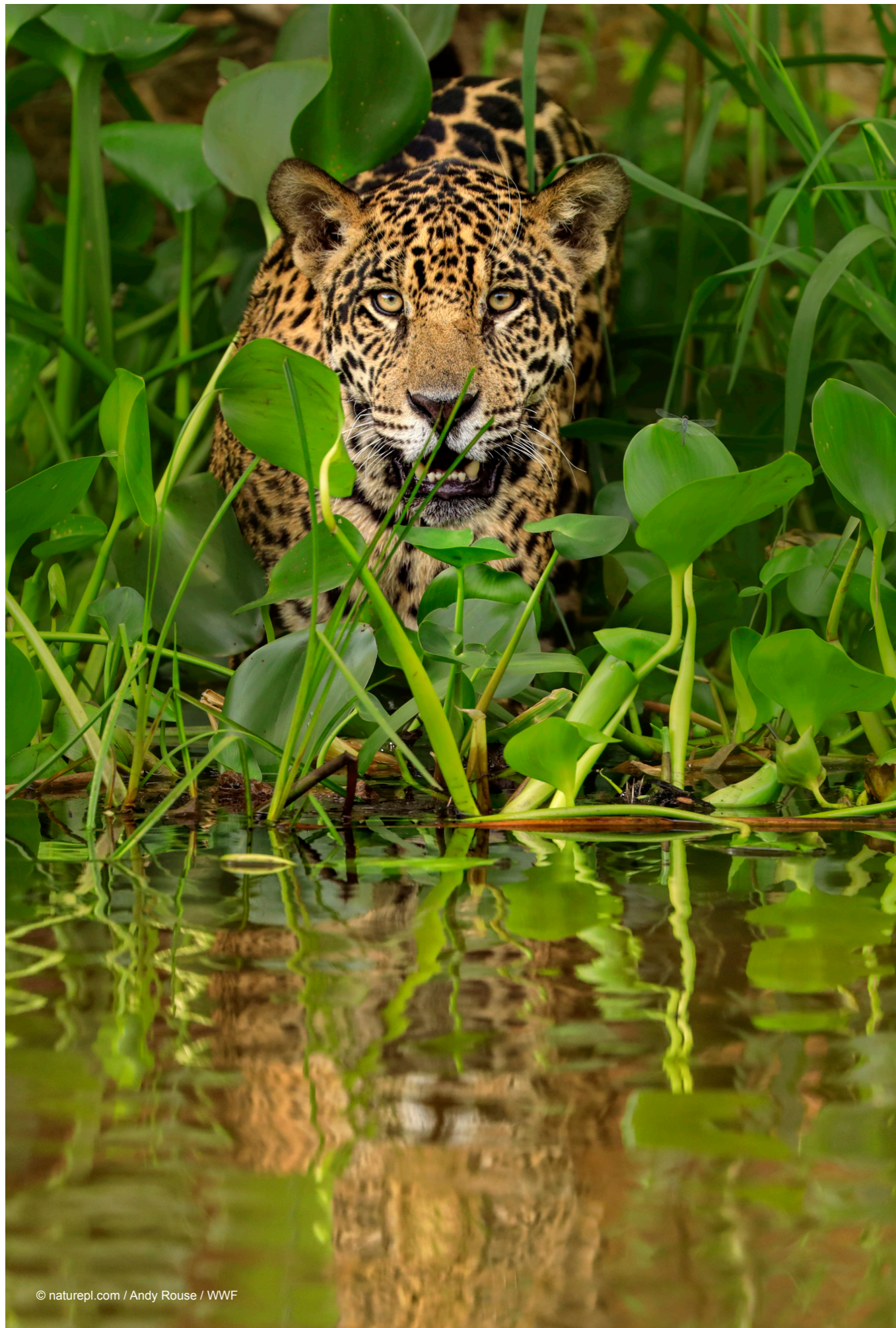
**Despite their ecological and cultural importance, jaguars face significant challenges.** Their current populations and long-term viability are threatened by habitat loss and fragmentation, driven by agricultural expansion, urban development, and infrastructure projects. Additional pressures on populations include direct killing out of fear or retaliation for livestock predation, wildlife trafficking, trophy hunting, and decline of their prey. Classified globally as Near Threatened on the International Union for Conservation of Nature’s (IUCN) Red List, and as Vulnerable, Endangered or Critically Endangered on national listings, jaguars have lost half of their historic range, which points to an urgent need for conservation measures to mitigate these threats and preserve their habitats.

**Because jaguars need large areas to survive, conserving them and their habitats holds significant potential for generating ecological and socioeconomic benefits.** By conserving extensive biodiverse areas essential for ecosystem stability, protecting jaguars not only benefits numerous other species within these ecosystems but also bolsters key environmental initiatives like forest conservation and climate mitigation. Furthermore, jaguar conservation can protect and improve vital ecosystem services –such as water and erosion regulation, climate control, and food provision– benefiting the livelihoods of communities on local and global scales.

**WWF’s Jaguar Strategy has identified 15 priority landscapes for jaguar conservation** (Figure 1). These “Jaguar Priority Landscapes” are crucial areas for jaguars across Latin America, as defined by jaguar scientists over the last 20 years, and offer promising opportunities to secure jaguar populations that are viable over the long term. WWF’s Jaguar Strategy aims to protect key habitats that not only support jaguar populations, but also provide essential ecosystem services that benefit human societies. By focusing on these landscapes, jaguar conservation activities can promote broader sustainability goals within the region, while also benefiting human populations, thus helping to achieve global sustainability frameworks like the United Nations’ Sustainable Development Goals (SDGs) and the targets of the Kunming-Montreal Global Biodiversity Framework (CBD, 2022).



**Figure 1. WWF’s 15 Jaguar Priority Landscapes.**  
Source: Own elaboration based on WWF (2020).



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**Forest ecosystem services from Jaguar Priority Landscapes yield a staggering economic value of USD \$1.5 to \$4 trillion annually.**

**This report focuses on WWF's 15 Jaguar Priority Landscapes**, providing an up-to-date assessment of key economic and environmental protection trends, an estimate of the economic value of ecosystem services, and insights from case studies conducted in five Jaguar Priority Landscapes, focused on local stakeholders' perceptions of ecosystem services.

### Results

**The Jaguar Priority Landscapes span 14 Latin American countries and contain roughly 10% of Latin America's human population (62 million people). Our results reveal an annual per hectare economic value of ecosystem services between USD \$15,800 to \$22,200 (international 2020 dollars<sup>1</sup>).** Regulating services like erosion prevention and climate regulation generate the most value, followed by provisioning services like water, genetic resources, raw materials, and food.

**Applying these per-hectare valuations of forest ecosystem services to the total forest area in the landscapes yields a staggering economic value of USD \$1.5 to \$4 trillion annually, with regulating services contributing between USD \$1.1 and \$2.8 trillion, and provisioning and cultural services between USD \$0.3 and \$1.1 trillion.** This monetary value is likely an underestimate of the full value of ecosystem services, due to the difficulty in translating many cultural values to monetary metrics.

<sup>1</sup> International dollar is the currency used in the Ecosystem Service Valuation Database (ESVD), which we used to estimate the economic value of ecosystem services in the Jaguar Priority Landscapes. As noted by Brander et al. (2023: 10), "international dollar is a hypothetical currency that has the same purchasing power parity as the US dollar in the United States of America at a specified point in time. Conversion of other currencies to international dollars involves adjusting for differences in prices levels (purchasing power) across countries."



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To put these values in context, the study also calculated the current economic output of human activities in these Jaguar Priority Landscapes to be USD \$708.3 billion, mainly through the financial and other services sector, including commerce, transportation, education, and banking. The Brazilian Coastal Atlantic Forest landscape, which includes the cities of São Paulo and Rio de Janeiro, represents 54.4% of the total population and 66.1% of the total economic output in the Landscapes. Though the majority of the population across the Jaguar Priority Landscapes is urban, areas like the Southern Guianas remain predominantly rural, which reflects the diversity of the socio-economic characteristics observed.

Put together, the monetary value of all of the ecosystem services (i.e. provisioning, cultural, and regulating) exceeds the region's total economic output 2.1 to 6 times over. The value of regulating services alone ranges between 1.6 and 4 times that of the total economic output, while provisioning and cultural services represents between 0.5 to 1.6 times that value (Figure 2). The ecosystem services' immense relative economic value is especially notable in some landscapes, such as the Southern Guianas, where their value is more than a hundred times the total economic output in the area. Such findings highlight the critical importance of these natural assets and the need to prioritize their conservation.

The level of environmental protection varies widely across the countries containing Jaguar Priority Landscapes. In the case of Guyana, Suriname, and Paraguay, over 80% of the national protected area land coverage is located within the Jaguar Priority Landscapes; whereas this figure in Colombia, Belize, Bolivia, Peru, Guatemala, and French Guiana is mid-range, between 27% and 75%; and Argentina, Mexico, Honduras, and Brazil have the least amount of their protected areas within the Priority Landscapes, between 3 and 12.5%. Overall, less than half of the current Jaguar Priority Landscapes fall within current protected areas. Bolivia, Colombia, French Guiana, Brazil, Belize, and Guatemala all have more than 50% of their Jaguar Priority Landscapes protected, while Peru, Ecuador, Honduras, Paraguay, Suriname, and Mexico have between 26% and 47% of these landscapes protected, and Guyana and Argentina only have a small fraction protected (17% and 7.7%, respectively). This disparity indicates a need for targeted conservation efforts in jaguar habitats, particularly in sites with lower levels of protected and conserved areas. Public spending on the environment has remained stagnant since 2013 at about USD \$9 billion (2020 prices) of annual investment by central governments, which further complicates these efforts, and highlights the necessity for increased financial commitment to safeguard these vital ecosystems.

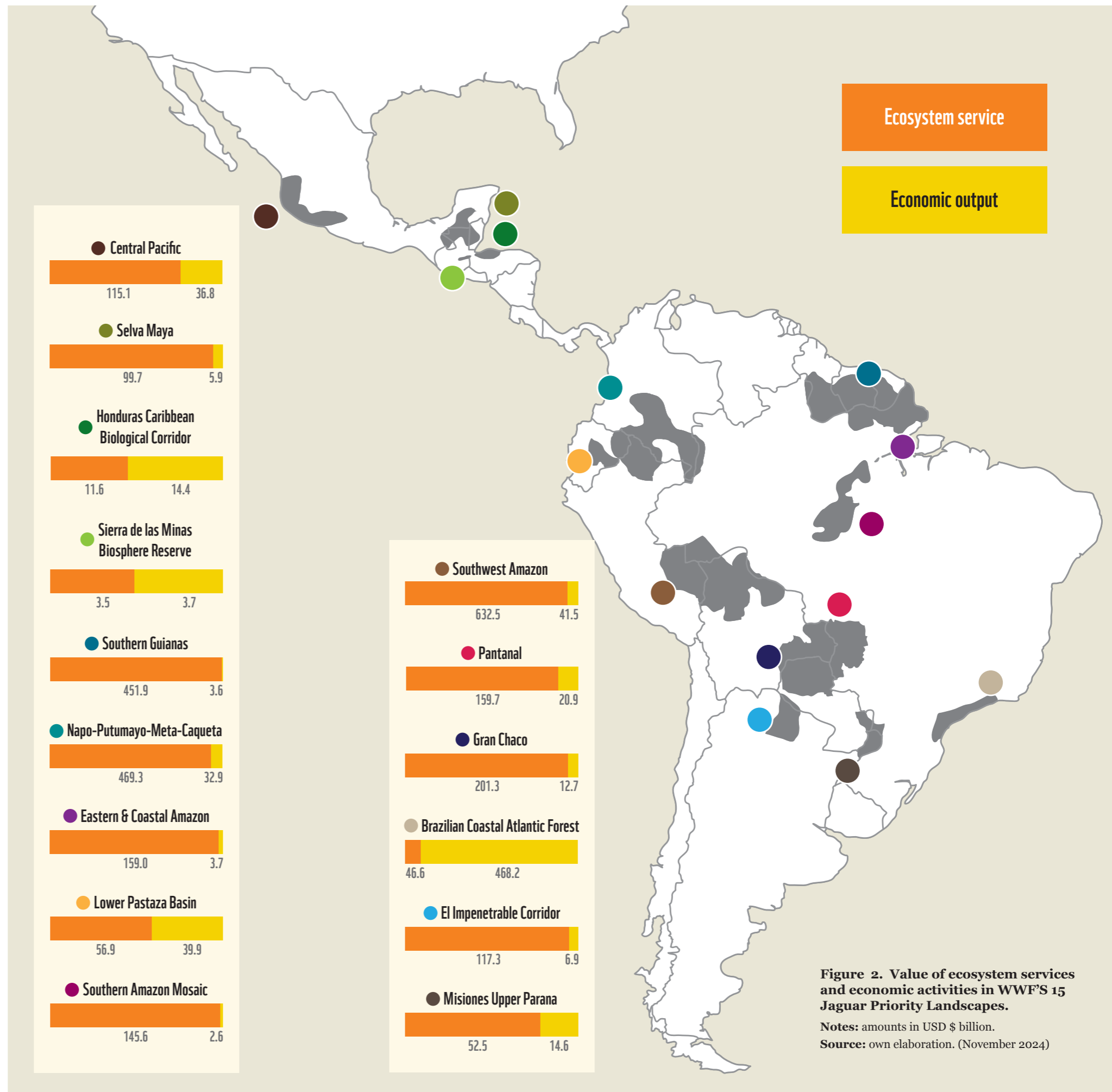


Figure 2. Value of ecosystem services and economic activities in WWF'S 15 Jaguar Priority Landscapes.

Notes: amounts in USD \$ billion. Source: own elaboration. (November 2024)

**We conducted in-depth case studies in five specific Jaguar Priority Landscapes to complement the economic valuation and analysis of key trends across the region.** The selected landscapes include Selva Maya (Mexico), Lower Pastaza Basin (Ecuador), Southwest Amazon (Bolivia), Pantanal (Paraguay), and Misiones Upper Parana (Argentina). In these case studies, we conducted 105 interviews with diverse local stakeholders to capture a wide range of perceptions regarding ecosystem services, including local authorities, community leaders, and agricultural producers. The objective of incorporating these case studies was to enrich our understanding and ensure that the analysis reflects the nuanced views and experiences of those directly interacting with the landscapes.

**Surveys indicated that locally a high level of importance is attributed to various ecosystem services, though with notable differences in perceptions throughout the region.** Regulation services generally scored high across landscapes, except in Mexico where disease regulation and waste treatment were viewed as less critical. Provisioning services like food and firewood were universally valued, though commercial uses of wild foods and timber varied by region.

**Survey results also highlighted a preference for natural ecosystems over human-made landscapes, as these contribute directly to local wellbeing.** There was a notable disconnect in some landscapes between the current land use, dominated by productive activities such as livestock pastures and monocultures, and the types of land use that local people perceived as providing the highest direct benefits, including natural ecosystems like native forests and water bodies. This mismatch suggests that prevalent economic activities may not always align with the perceived needs or benefits of local communities. We note that this result may have been influenced by the types of stakeholders involved in the interviews, which mostly included local authorities, community leaders, and agricultural producers.



**Our results reveal an annual per hectare economic value of ecosystem services in the Jaguar Priority Landscapes between USD \$15,800 to \$22,200.**



**Conserving jaguar habitats yields substantial economic benefits across the Jaguar Priority Landscapes.**

**Survey results also revealed a widespread concern about ecosystem degradation.** Most participants noted a decline in ecosystem services due to deforestation, unsustainable agricultural practices, and rapid urbanization driven by demographic shifts and policies unsuited for local communities. Potential solutions identified by respondents include enhancing regulatory frameworks, promoting local, sustainable consumption, and implementing specific local environmental policies that support ecosystem conservation. These insights underscore the complex challenges and necessary actions for sustaining ecosystem services in these diverse landscapes.

### Conclusions and next steps

**Our findings confirm that conserving jaguar habitats yields substantial economic benefits across the Jaguar Priority Landscapes, primarily through provisioning and regulatory services.** In fact, as we have shown, economic valuation of ecosystem services surpasses the current aggregate value of economic activities in the Landscapes. These findings provide evidence to support jaguar habitat conservation from an economic standpoint.

**Yet, economic, demographic and environmental protection trends in the Jaguar Priority Landscapes suggest a series of emerging challenges.** Rising urbanization, agricultural expansion and population growth pose additional pressure on Jaguar Priority Landscapes, risking further loss and fragmentation of jaguar habitat and human-jaguar conflicts. Also, stagnant public funding allocation limits government capacity to safeguard jaguar habitats. This situation raises the need for collaboration and innovation among governments and the private sectors and civil society, to achieve the conservation of jaguar habitats and ensure the enormous benefits they provide to people are maintained.

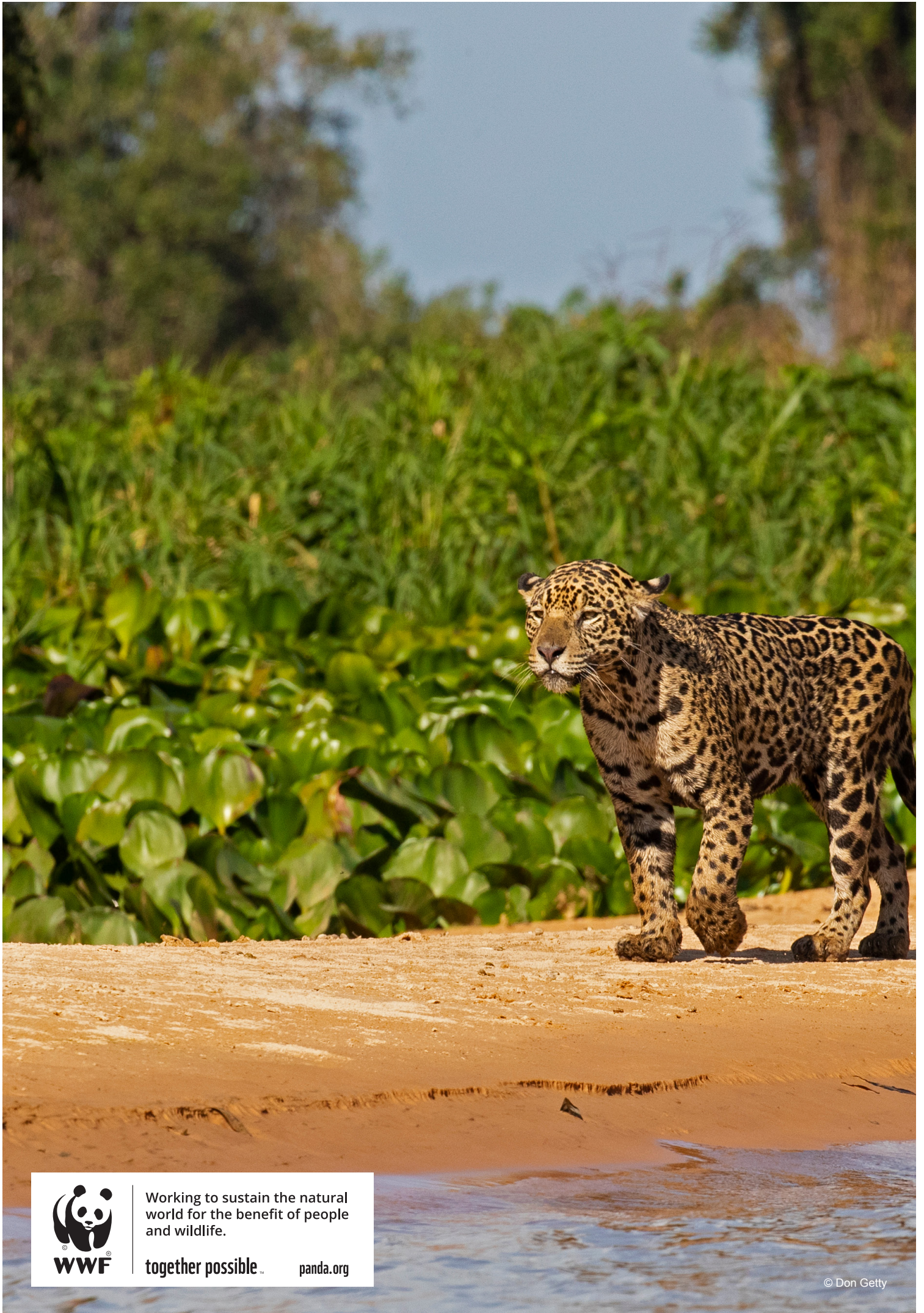
**We provide specific recommendations for next steps in further analysis and decision-making among policymakers, civil society, the financial and private sectors, local communities, and academia.**



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