Rewilding in Chile

EXPERIENCES AND PROJECTIONS

REWILDING CHILE

The Legacy of Tompkins Conservation

Omar Rebolledo

Contents

Puma in Patagonia National Park. Credit: Lena Bam.

"Rewilding is the latest element in the history of scientific conservation. It does not, however, stand alone. Rather, it complements other approaches for designing regional networks of nature protection by contributing an independent justification for bigness and connectivity. And like certain other methodologies, it facilitates design and management of protected areas because it obviates the need to consider every species in detail. Thus rewilding is both an end (because of our duty to repair past mistakes in management) and a means by which the viability of conservation units is achieved. This unusual conjunction of means and ends is, perhaps the most intellectually compelling feature of rewilding".

MICHAEL SOULÉ AND JOHN TERBORGH (1999)

Figure 1. Species such as the guanaco have been decimated in terms of their original numbers and distribution. Credit: Ingo Arndt.

Introduction

The degradation of terrestrial ecosystems has reached critical proportions. Between 2000 and 2015, nearly 20% of the global land area, or more than 2 billion hectares, was degraded, driven by processes such as land conversion for agriculture, deforestation, and climate change (UNSD, 2020). Forests, which cover approximately 31% of the planet's surface and are home to more than 80% of terrestrial animal, plant, and insect species, are disappearing at an alarming rate, with an estimated annual loss of 13 million hectares (UNDP, 2023). This drastic loss of habitat, coupled with the progressive degradation of biodiversity, has accelerated extinctions at rates at least 100 times higher than the natural rate recorded in our planet's geological history, placing us on the threshold of a sixth mass extinction (Barnosky et al., 2011).

This trend has accelerated since 1970, but it has been developing for several millennia. In South America, specifically, at least 46 genera of terrestrial megafauna (species weighing more than 45 kg) have disappeared since the end of the Pleistocene and the beginning of the Holocene, i.e., between 20,000 and 8,000 years ago (Villavicencio, 2016). Among South American wild camelids, for example, at least five species coexisted alongside the vicuña (*Vicugna vicugna*) and the guanaco (*Lama guanicoe*), whose populations numbered in the tens of millions. Today, these populations have been severely decimated, with only a fraction of what they were in the not-too-distant past remaining. In the case of the huemul (*Hippocamelus bisulcus*), Chile's national symbol, its original population has been reduced by 99%, while its range has shrunk by more than 50% (Díaz and Smith-Flueck, 2000). These drastic reductions in wildlife population sizes not only translate into an imminent risk of extinction, but also into the loss of functionality and adaptability of the ecosystems of which they are a part.

This loss of biodiversity, which has reached a critical level, demands unprecedented urgency for human-led nature recovery efforts. Maintaining and strengthening the inherent resilience of ecosystems through active management by governments and conservation organizations offers a viable and encouraging path to slow the rapid decline of species and ecosystem functionality. In this context, rewilding emerges as an innovative conservation approach to counter this threat that puts the evolution of life on Earth at risk, and ultimately to human existence itself.

In this context, at Rewilding Chile has worked with a network of collaborators in the preparation of this technical document on rewilding. Our purpose is to broaden the understanding of this conservation strategy and promote reflection and debate around its concept and implications, considering that its definition continues to be a subject of discussion both globally and in academic circles. This document also presents past and recent rewilding experiences developed in Chile, recognizing the pioneering public and private conservation efforts that have shaped the history of species and ecosystem protection in our country.

Rewilding, broadly speaking, seeks to restore ecological integrity on a large scale through a comprehensive approach that encompasses protected areas, key species, and ecological connectivity. The technical foundations of this

Figure 2. Corcovado National Park from the air, the first park to be created through collaboration between Tompkins Conservation and the Chilean government. Credit: Antonio Vizcaíno.

concept were initially developed by Soulé and Noss (1998), and it should be understood as a paradigm shift in conservation. It is essential to consider the historical context in which it emerged, as attempting to understand rewilding without addressing its origins and nuances can lead to decontextualized or incomplete interpretations. It is a dynamic and multifaceted concept with a vision for the future that has been adapted and reinterpreted in different contexts around the world.

However, in the search for the foundations of rewilding in Chile, we recognize the crucial role of the State in promoting objectives linked to this strategy, even before the term itself was widely adopted. We will analyze emblematic cases, such as the recovery of the vicuña, an effort that not only restored its populations in Chile but also contributed to its reintroduction in Ecuador. We will also review the recovery and natural succession of the landscape that now makes up the Río Cipreses National Reserve, an achievement based on the control and elimination of threats. Finally, we will address the population reinforcement of the huemul in Torres del Paine National Park, highlighting its impact on ecosystem recovery and its link to local communities.

However, given the scope and magnitude of the environmental crisis, it is clear that the capacity of the State alone is not sufficient to cover the protection and restoration of the country's natural heritage. The support of the private sector and a civil society committed to the protection of nature is essential to achieve concrete conservation results. In a non-exhaustive compilation, we highlight various rewilding initiatives led by Chilean organizations, always within the framework of collaborative efforts.

We will also present the rewilding work that our team, initially under the auspices of Tompkins Conservation and now as Rewilding Chile, has been promoting for more than 30 years in Chilean Patagonia. This region stands out as a benchmark for conservation in Chile, as it is home to 91% of the territory protected under the National Park category. The territorial vision of the Route of Parks of Patagonia, which we have been promoting since 2015, has been consolidated both as public policy and as a key climate refuge for biodiversity. We see this region as a source for amplifying the impact of conservation, not only nationally but also continentally, thanks to its strategic location and its regulatory function between the seas at the end of the world and the extensive Andean mountain range.

In this context, we will present notable cases promoted by Tompkins Conservation, such as the creation of two iconic national parks: Pumalín Douglas Tompkins and Patagonia. We will also explore how the programs developed around these parks have been pioneers in adopting a landscape-scale rewilding vision, in coordination with public and private actors. We will also highlight the Huemul National Corridor, an ambitious public-private initiative that aims to restore the ecological connectivity of this key species, both at the ecosystem level and among its remaining subpopulations, through a large-scale approach.

This document concludes with a look to the future, reflecting on the main challenges and next steps to consolidate rewilding as a key strategy in biodiversity conservation in Chile and South America. To this end, it highlights the need to scale up its impact and expand this vision beyond Patagonia, along the geographical axis that structures the country and connects it with the rest of the continent: the Andean Corridor.

What is rewilding?

Inspired by advances in conservation biology and the ethical principles of deep ecology, American ecologists Michael Soulé and Reed Noss (1998) developed the first conceptual model of rewilding, known as the three Cs approach (Figure 3). This model—based on the principles of cores, corridors, and carnivores—argues that regional-scale ecosystem restoration is possible if a network of large, strictly protected habitat cores is established and connected by corridors. But it doesn't stop there: this approach not only proposes an ecological infrastructure, but also seeks to reactivate the essential processes that sustain ecosystems on a large scale, including top-down regulation in the dynamics of food webs. This is achieved through the recovery of viable populations of key species, especially large carnivores, whose influence on the structure and functioning of ecosystems is disproportionately high relative to their abundance, due to their regulatory role in biological communities.

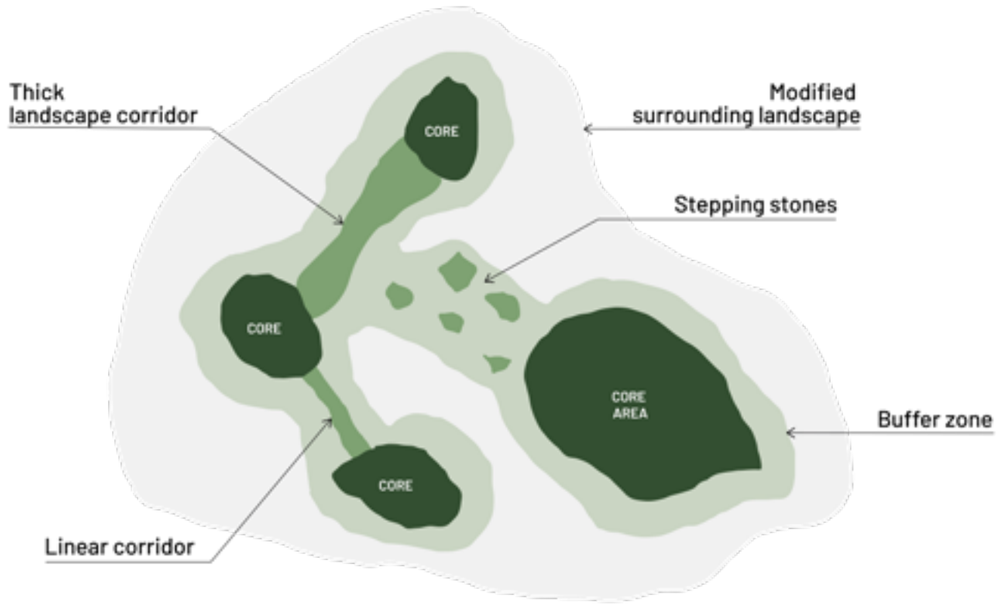

Figure 3. The Core-Corridor-Carnivore (3Cs) rewilding model. From Carver et al. 2021, adapted from Soulé and Noss, 1998.

Since its inception, this approach to conservation has been closely linked to a vision of large-scale restoration, aimed at rebuilding the ecological structure necessary for the free movement of megafauna species with high spatial requirements (Soulé and Terborgh, 1999). However, with the arrival of the new millennium, rewilding began to adapt and diversify, especially in regions such as Europe, where intense human pressures and the limited availability of large natural areas forced a reformulation of its principles in line with the socio-ecological and territorial context of the Old Continent.

In this process of expansion and reinterpretation, various approaches to rewilding have emerged, each with its own nuances in terms of ecological objectives and the degree of human intervention they contemplate. Some proposals, such as trophic rewilding, focus on restoring lost ecological functions by reintroducing key species and recovering trophic interactions (Svenning et al., 2016). Others, such as Pleistocene rewilding, take a more retrospective view, aimed at restoring processes associated with extinct megafauna after the last extinction event of the Late Pleistocene (Donlan et al., 2006). At the same time, ecological rewilding emphasizes returning prominence to natural processes, without necessarily focusing on individual species, while passive rewilding proposes a deliberate reduction of human control over ecosystems, allowing them to regenerate autonomously.

Despite their nuances, the various approaches to rewilding share a common goal: to restore the ecological integrity of natural systems by restoring processes and dynamics that allow ecosystems to thrive and sustain themselves over time. As an approach, it has experienced exponential growth in recent decades, giving rise to a wide range of research, management proposals, and conservation projects around the world (Carver et al., 2021). From the reintroduction of key species to the promotion of natural processes without direct human intervention, rewilding has established itself as an ambitious large-scale conservation strategy. Its main purpose is to restore nature's ability to maintain its own evolutionary and functional dynamics, strengthening the resilience of ecosystems in the face of threats and contributing tangibly to slowing biodiversity loss.

Figure 4. The puma, the apex predator and keystone species of mountain ecosystems in the Americas. Credit: Ingo Arndt.

A global conservation and restoration movement

When tracing the origins of rewilding, it is important to note that its conceptual formulation dates back to the early 1990s in the United States, when a group of conservationists—including Douglas Tompkins (Figure 5)—established The Wildlands Network (formerlyThe Wildlands Project). From this platform, they advocated for the need for a system of interconnected protected areas to sustain large-scale wildlife populations. In 1992, under the auspices of this group, environmentalist David Foreman introduced the term rewilding in a regular column entitled Around the Campfire in Wild Earth magazine, the main publication of The Wildlands Project. Years later, Foreman co-founded the Rewilding Institute, whose work focuses on designing and promoting large-scale conservation and restoration strategies that originated in North America and have since expanded to other regions of the world.

Figure 5. First meeting of The Wildlands Project in San Francisco, ca. 1991, supported by Douglas Tompkins. Credit: George Wuerthner.

In the first decade of rewilding in North America, two emblematic cases stood out and served as inspiration for what was then beginning to take shape. The first was the California condor (*Gymnogyps californianus*) recovery program, promoted by the U.S. Fish and Wildlife Service in collaboration with the Los Angeles and San Diego zoos. In the mid-1980s, the global population of the species had fallen to just 22 individuals, a figure so critical that, had a captive breeding program not been implemented, it would probably have become extinct.

Since 1992, thanks to periodic releases and veterinary interventions, especially to mitigate lead poisoning, reintroduced populations have shown a sustained increase. However, the species' longevity means that its demographic recovery will be slow and will depend on constant long-term monitoring. Even so, the California condor once again soars through the skies of the American West, a tangible symbol of what conservation can achieve (U.S. Fish & Wildlife Service, 2025).

The second emblematic example was ecosystem restoration through the reintroduction of gray wolves (*Canis lupus*) in Yellowstone National Park (Smith et al. 2003). This apex predator had been extinct in this area of the North American continent for around 70 years, due to the fact that wolves, along with other predators in the ecosystem, had been hunted, trapped, and poisoned by the mid-1920s. However, between 1995 and 1996, in a joint effort between the Fish and Wildlife Service and the National Park Service, together with actors from the academic and private sectors, a total of 31 individuals from Canada were translocated to the wild. The reintroduction of this key species eventually restored the ecological dynamics of Yellowstone by controlling the unregulated populations of elk (*Cervus canadensis*) and coyotes (*Canis latrans*). This influence triggered a trophic cascade that allowed the regeneration of deciduous woody species, which even encouraged the landscape-scale recovery of the national park's riparian ecosystems, becoming an icon of large-scale restoration.

Figure 6. California condor in flight, a species that was saved from extinction through capture, breeding, and reintroduction programs. Credit: U.S. Fish & Wildlife Service. **Figure 7.** Reintroduction of wolves to Yellowstone National Park, January 1995. Credit: US National Park Service.

Consolidating its expansion beyond these major conservation icons, rewilding in North America diversified across multiple landscapes and organizations. Following these initial milestones, the Sky Island Alliance, formed in the early 1990s in southeastern Arizona, New Mexico, and northern Mexico, works to reconnect the mountains known as Sky Islands, restoring habitats for species such as the jaguar and mitigating the effects of border infrastructure on connectivity. In the Great Plains of Montana, meanwhile, the American Prairie organization is promoting the largest nature reserve project in the contiguous United States, with the recovery of the American bison (*Bison bison*) as the focus for reactivating the natural grazing cycles characteristic of this grassland ecosystem. At the same time, the Yellowstone to Yukon (Y2Y) Initiative aims to conserve more than 3,000 km of mountainous landscapes between Yellowstone National Park and the Canadian Yukon, creating corridors for brown bears (*Ursus arctos*) and wolves to move freely.

In Europe, rewilding gained momentum with the creation of Rewilding Europe in 2011, based in the Netherlands and in collaboration with WWF and Wild Wonders of Europe. The organization currently promotes large-scale conservation and restoration in 11 landscapes of at least 100,000 hectares each, including the reintroduction of the European bison (*Bison bonasus*) in the Southern Carpathians in Romania, and the establishment of coexistence corridors for the Marsican brown bear (*Ursus arctos marsicanus*) in the Central Apennines of Italy. This extensive European rewilding network also develops initiatives in the Dauphiné Alps in France; the Affric Highlands in Scotland; the Côa Valley in Portugal; the Iberian Plateau in Spain; Lapland in Sweden; the Oder Delta between Germany and Poland; the Rhodope Mountains in Bulgaria; the Velebit massif on the Adriatic coast of Croatia; and the Danube Delta between Romania and Ukraine. Together, these territories reflect a wide diversity of objectives, shaped by very varied contexts and conservation challenges.

A GLOBAL CONSERVATION AND RESTORATION MOVEMENT

Figure 8. Marsican brown bear (*Ursus arctos marsicanus*) in the central Apennines, Italy. This endemic subspecies, with an estimated population of fewer than 60 individuals, is considered critically endangered. The Rewilding Apennines team, part of the Rewilding Europe network, works to improve coexistence between humans and bears, restore habitats, reduce conflicts, and promote the natural expansion of the species beyond its core area in the Abruzzo, Lazio, and Molise National Park. Credit: Fabrizio Cordischi.

Finally, it is worth highlighting the impact of the 2020 Rewilding Charter (WILD11) and the coordinated work of the Global Rewilding Alliance, which brings together more than 280 organizations in Africa, Asia, Oceania, Europe, Latin America, and North America. Together, they have established a common framework of principles, such as promoting ecological corridors, reintroducing key species, controlling threats, restoring natural processes, and working with communities, influencing the rewilding of nearly 220 million hectares of land and 500 million hectares of sea. Thanks to this global momentum, rewilding has transcended its regional origins to establish itself as a global movement that not only revalues ecological integrity on a large scale, but also reinforces the interdependence between conservation, restoration, and human well-being, opening up a horizon of hope for the gradual recovery of our planet.

Role of the State: paving the way for rewilding in Chile

In Chile, initiatives and actions related to rewilding have been developed for at least two decades before the term was formally coined. In this context, the efforts of the State, led by the National Forestry Corporation (CONAF)—the historical administrator of the National System of Protected Wild Areas (SNASPE)—aimed at species recovery and improving the health of ecosystems on a large scale, stand out.

The SNASPE, created by law in 1984, has supported many of these actions. Its foundations, however, date back to 1907, with the creation of the Malleco Forest Reserve (now the Malleco National Reserve), the first protected area in the country and in South America. This decision, visionary for its time, marked the beginning of the State's commitment to protecting ecosystems and laid the foundations for what, decades later, would shape the SNASPE. Another important milestone was the Chilean government's adoption in 1967 of the Convention for the Protection of Flora, Fauna, and Natural Scenic Beauty of America (Washington Convention), which established key definitions for protected areas and guided conservation actions on the continent.

Figure 9. Access to Malleco National Reserve, the first protected area in Chile and South America. Credit: National Forestry Corporation.

Figure 10. CONAF park ranger, Pumalín Douglas Tompkins National Park. Credit: Cristián Rivas.

Today, SNASPE covers more than 20% of Chile's continental territory, with 18.8 million hectares, and is protected by nearly 470 park rangers. It consists of 110 protected areas, including national parks, national reserves, and natural monuments, and continues to expand. Through this network, the government has ensured the conservation of extensive areas of habitat and populations of endangered species, promoting projects that have contributed decisively to creating a favorable environment for the development of rewilding in the country.

This section analyzes emblematic cases promoted by CONAF, including the recovery of the vicuña (*Vicugna vicugna*) and its associated ecosystems, an initiative that not only allowed for the restoration of its populations in Chile, but also collaborated in its reintroduction in Ecuador, where the species had become locally extinct. Similarly, it will address the population reinforcement of the huemul (*Hippocamelus bisulcus*) in Torres del Paine National Park through the translocation of individuals from other areas of Patagonia.

However, wildlife translocation has not been the only strategy used to achieve significant results. We will also examine the case of the Río Cipreses National Reserve, where the elimination of threats allowed for a process of passive restoration, enabling the natural recovery of wildlife and its ecosystems.

Recovery of the vicuña in the Chilean highlands

In the early 1970s, the vicuña population in northern Chile was severely decimated, mainly due to poaching driven by the illegal market for their fiber, considered the finest after natural silk. At that time, it was estimated that the vicuña population in the Chilean highlands had been reduced to just 700 individuals.

The creation of Lauca National Park by Supreme Decree No. 270 of the Ministry of Agriculture in 1970, together with the establishment of CONAF, marked the beginning of the Vicuña Project. The main objective of this program was to recover vicuña populations and effectively protect their habitat. Thanks to these efforts, populations began to recover significantly, allowing for the implementation of sustainable management practices that benefited the high Andean inhabitants, using a model similar to that used by pre-Columbian civilizations.

Meanwhile, in 1981 Chile acceded to the "Convention for the Conservation and Management of the Vicuña," signed in Lima

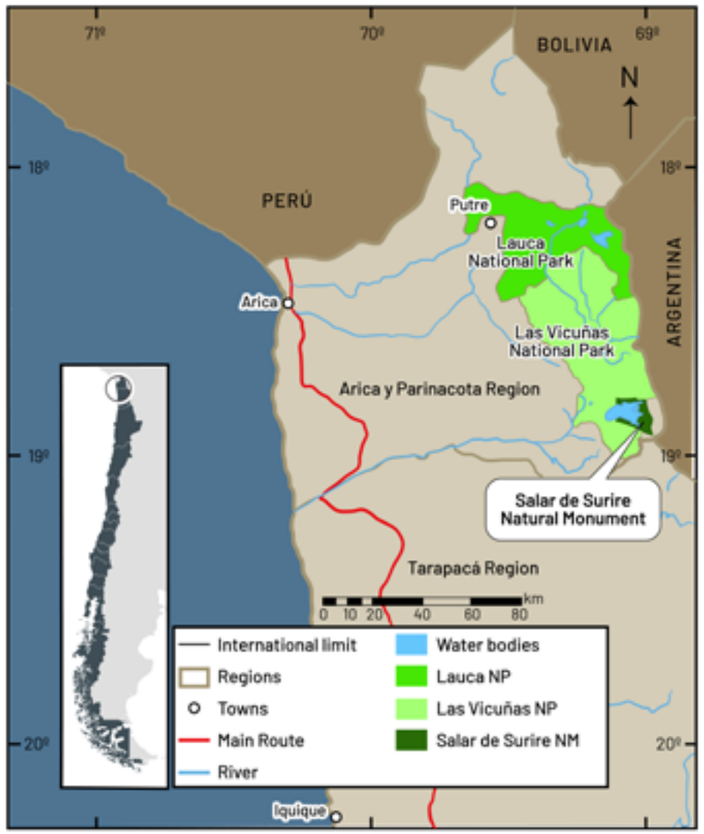

Figure 11. Lauca National Park and Las Vicuñas National Reserve, created in 1983 from the territory of the former Lauca National Tourism Park. Credit: Eduardo Nuñez Archive.

in 1979 and promulgated by Supreme Decree No. 212 of the Ministry of Foreign Affairs. This international agreement, signed by Ecuador, Bolivia, Peru, and Chile, reflected the commitment of the region's governments to the conservation and sustainable management of the vicuña.

In this context, the success of vicuña conservation efforts allowed for a territorial reorganization within Lauca National Park in 1983, which led to the recategorization of part of the park as Las Vicuñas National Reserve (209,131 ha). This measure was intended to consolidate the national park as a core conservation area, while the national reserve offered the possibility of incorporating sustainable management of the species.

Conservation efforts extended beyond Arica and Parinacota and Tarapacá, also covering the regions of Antofagasta and Atacama. CONAF implemented protection measures in these areas with the aim of restoring both vicuña populations and their habitats. As part of this effort, the Los Flamencos National Reserve, Llullaillaco National Park, and Nevado de Tres Cruces National Park were created, mitigating threats and promoting the recovery of fragmented populations. These actions were in line with Article 5 of the "Convention for the Conservation and Management of the Vicuña," which obliges signatory governments to maintain and develop parks, national reserves, and other protected areas with vicuña populations, as well as to expand repopulation areas under state management.

Effective administration and a corps of park rangers were established in all protected wilderness areas of the Chilean highlands, facilitating the recovery and development of vicuña populations. Management of these areas included poaching control and environmental education for local communities, strengthening protection of the species and ensuring its long-term conservation.

Figure 12. Fieldwork for vicuña conservation in the Arica and Parinacota highlands. This includes shearing work with Aymara communities, planning of field actions by CONAF, and observation of groups of juvenile males in the Las Vicuñas National Reserve. Credits: Eduardo Núñez Archive.

Cross-border collaboration to reintroduce vicuñas in Ecuador

Within the framework of the Agreement for the Conservation and Management of Vicuñas, and in compliance with Article 4, which prohibits the export of fertile vicuñas, semen, or other reproductive material except for research and repopulation purposes in member countries, Chile collaborated in the reintroduction of the species in the Chimborazo Wildlife Production Reserve in Ecuador (CONAF 1989).

In 1988, a project was implemented in Chile with several key phases: first, the evaluation of biogeographical similarities between the Ecuadorian páramo and the Chilean high Andean steppe; then, the training of Ecuadorian technicians in vicuña management and the development of capture techniques in the Las Vicuñas National Reserve. Subsequently, specimens were selected, quarantined, and transported by air, taking care to respect the social organization of the captured groups.

In the Chimborazo Wildlife Production Reserve, with the support of Chilean technicians, the reintroduction process began with phases of adaptation, predator control, release, and monitoring of the groups. As a result, Ecuador integrated the vicuña into a sustainable management scheme for the benefit of the local Puruaes communities, in line with the objectives of the Convention for the Conservation and Management of the Vicuña.

The success of the project is evident: from the 100 vicuñas donated by Chile, added to another 100 provided by Peru and 70 by Bolivia, Ecuador has managed to recover a population that now exceeds 6,000 specimens.

Figure 13. Process of donating and transferring 100 vicuñas from Chile to Ecuador in 1988, along with social media posts showing their capture in management pens, conditioning and shipment in Arica, and subsequent release in the Chimborazo Wildlife Production Reserve. Credits: Eduardo Núñez Archive

Figure 14. Current image of vicuñas, resulting from the reintroduction of the species in the Chimborazo Wildlife Production Reserve, Ecuador, next to the volcano of the same name, the highest mountain in that country and in the northern Andes. Credit: Guenter Guni.

Strengthening the huemul population in Torres del Paine National Park

Currently, it is estimated that around 1,500 huemul deer survive in Chile and Argentina, representing a reduction of more than 99% in population size and more than 50% in their range (Diaz and Smith-Flueck, 2000; Vila et al., 2010).

This has led to the huemul being considered an endangered species. It is one of the most threatened large land mammals included in the Red List of the International Union for Conservation of Nature (IUCN) and one of the most threatened species in South America. It has been classified as Endangered in the Species Classification Regulations (RCE) since 2007. It is also included in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and in Appendix I of the Convention on the Conservation of Migratory Species (CMS).

CONAF was a pioneer in the early management of the huemul, focusing its efforts on its reintroduction between 1977 and 1989. After several capture and transfer operations from Bernardo O'Higgins National Park, they successfully released at least eleven huemul deer in Torres del Paine National Park, in the Magallanes Region (Saucedo et al., 2005; Guineo et al., 2008). These interventions, together with the change in land use from livestock farming to conservation, and the possible natural colonization by huemul deer from nearby areas, contributed to the current significant presence of this species in Torres del Paine. The dedication of the park rangers was crucial to the gradual recovery of the huemul in this area.

Figure 15. Current and past distribution map of the huemul (Extracted from Povilitis, 2002).

Today, Torres del Paine National Park has become an icon of how nature tourism has diversified and transformed the economic activities of nearby communities, which were previously focused on sheep farming. This change has improved the protection of the huemul and its habitat, benefiting all of the park's ecosystems. The greater tolerance of ranchers towards species such as pumas (*Puma concolor*), condors (*Vultur gryphus*), and foxes, previously hunted and now valued as natural assets, has created and extended a more functional ecosystem and enriched the experience of visitors seeking a wild Patagonia in the process of rewilding.

Figure 16. Torres del Paine National Park. Credit: Linde Waidhofer.

Figure 17. Transport of huemul deer from Bernardo O'Higgins National Park to Torres del Paine National Park, ca. 1977. Credit: Eduardo Núñez Archive.

Figure 18. Release of huemul deer in Torres del Paine National Park, coming from Bernardo O'Higgins National Park, ca. 1977. Credit: Eduardo Núñez Archive.

The process of restoration through natural succession in the Río Cipreses National Reserve

The Río Cipreses National Reserve (RNRC), located in the O'Higgins region, was created in 1985 to conserve the flora, fauna, and landscapes of central Chile. Before its creation, the RNRC's land and its surroundings were used for livestock and agricultural activities, firewood extraction, and charcoal production, practices that have decreased over time within the reserve. The intensive use of the sclerophyllous forests degraded the plant communities, causing changes in their structure and floristic composition (Promis, 2020). Since its creation, a rewilding process began in the RNRC by changing the land use, allowing natural succession to develop freely. This passive management has improved the state of the Andean sclerophyllous forest compared to the area outside the reserve.

In the context of wildlife recovery and its immediate habitat, the case of the Patagonian parrot (*Cyanoliseus patagonus bloxami*) stands out. This species was abundant in scrubland areas between the Atacama and Biobío regions. However, intensive hunting and capture for commercialization as pets decimated its population, leading to its disappearance in several regions. In 1985, it was estimated that fewer than 3,300 specimens remained, divided into two subpopulations (Glade, 1985). In 1988, it was classified as an "Endangered" species (CONAF, 1993), so one of the objectives of the RNRC was to protect an important nucleus of these birds. Since its creation, the tricahue parrot population has increased from approximately 350 individuals in 1985 to almost 3,000 in 2015 and 3,456 in 2016, distributed across 18 loreras/nesting sites (Ricci et al., 2018; Bioamérica-Pacific Hydro, 2018). This growth has made the RNRC a key hub for the recovery of the species in central Chile, with important implications for the health and recovery of the scrubland and sclerophyllous forest.

Another objective of the RNRC was to protect a small population of guanacos, one of the last remnants of a once numerous population in the central mountain range of Chile. The guanaco plays a key role as a herbivore that shapes the landscape and as prey for pumas, whose interaction provides food for Andean condors and a number of scavenger species. Restoration actions included eliminating competition from domestic livestock and hunting pressure. After 35 years of protecting this core population, unlike in the case of the tricahue parrot, the available information does not provide clarity regarding its status and trends in the RNRC, as well as in a broader spatial context, considering the high mobility of this species.

ROLE OF THE STATE: PAVING THE WAY FOR REWILDING IN CHILE

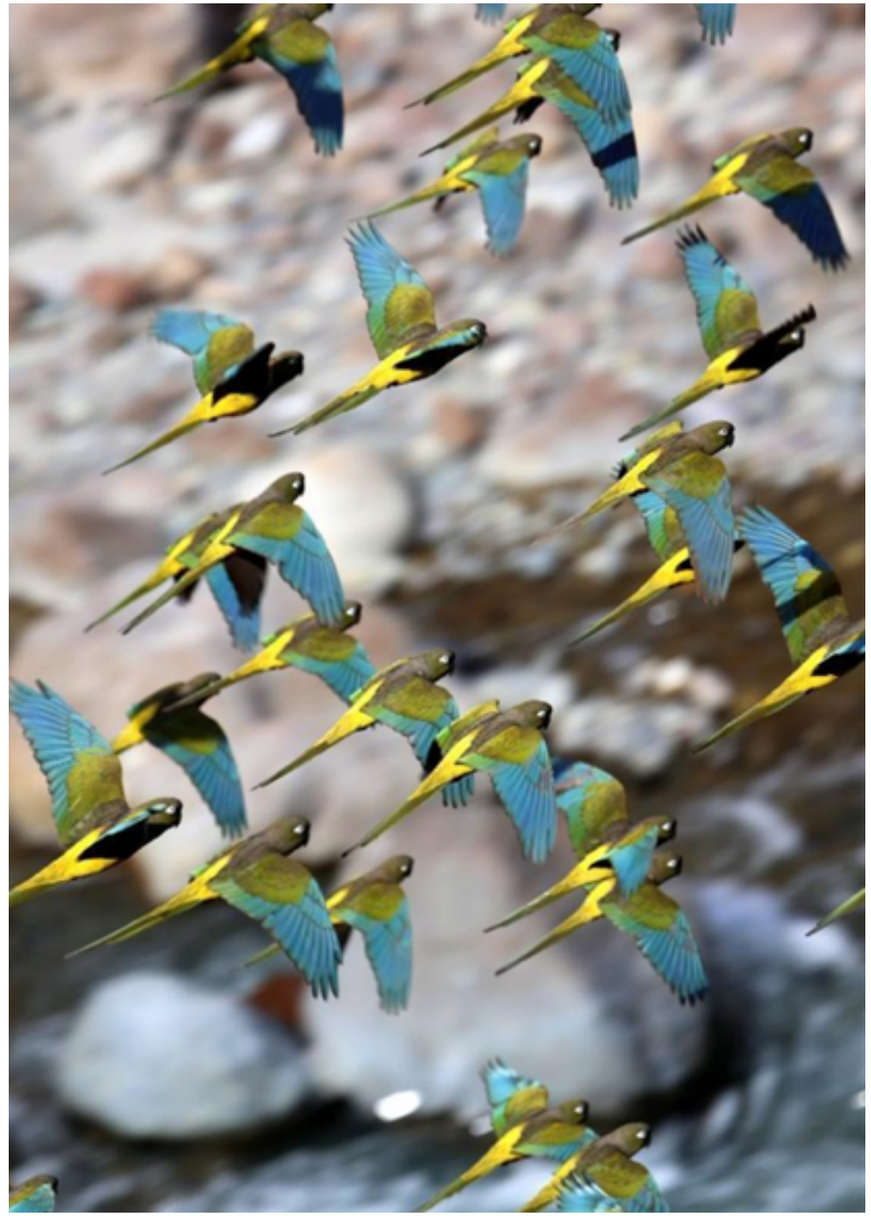

Figure 19. Tricahue parrots in the Río de Los Cipreses National Reserve. Credit: Eduardo Pávez.

Rewilding experiences by civil society organizations

In Chile, various organizations have led initiatives conducive to rewilding with varied approaches and scales, reflecting the wealth of perspectives and strategies aimed at ecosystem conservation and restoration. From local-scale projects to nationwide efforts, these actions seek to revitalize degraded ecosystems and recover threatened species. This section analyzes emblematic cases from different actors, illustrating their impact and the lessons learned in this field.

Among the common lessons learned, the role of active wildlife management as a key tool for ensuring the survival of endangered species stands out (Krausman and Cain, 2022), marking a paradigm shift in conservation since the pioneering approaches of Aldo Leopold (1933). This approach involves direct and planned interventions—such as reintroductions, translocations, or population bolsters—that have a concrete impact on the recovery of declining populations. Illustrative examples, discussed in the previous chapter, are the translocations of vicuñas and huemul deer, which have proven to be effective strategies for reversing negative population trends and restoring the ecological functionality of their habitats.

Figure 20. Northern Darwin's frog (Rhinoderma rufum) at the Hamburg Museum, a species that has not been seen since 1981 and is currently classified as "Critically Endangered - Possibly Extinct." Credit: Claudio Azat.

This approach to conservation is complemented by other essential measures, such as rescue, rehabilitation, monitoring the health status of wildlife populations, translocations, and repopulation. In this regard, wildlife rescue, rehabilitation, and breeding centers also play a crucial role in rewilding initiatives.These centers not only provide care and attention to vulnerable individuals, but also contribute to strengthening wildlife populations in areas where they are diminished or threatened. As will be presented, species such as the condor (*Vultur gryphus*), the red-necked rhea (*Chloephaga rubidiceps*), the southern huemul (*Hippocamelus bisulcus*), the southern pudú (Pudu puda), and the Loa frog (*Telmatobius dankoi*) depend heavily on active management and adequate infrastructure for their rescue, recovery, and reintroduction into the wild.

Rewilding in Chile is also marked by the urgency to manage and control threats. An emblematic example is the recovery of the junco (*Pelecanoides garnotii*) in the Humboldt Penguin National Reserve. This species would probably not have persisted in this protected area without the systematic control of invasive alien species that previously decimated its populations. In a country with relatively few documented extinctions in recent millennia, conservation priorities are often guided by the need to mitigate factors that erode native populations. These include habitat loss and degradation, displacement by human activities, the transmission of diseases from domestic animals, roadkill, attacks by dogs, and other associated threats.

These experiences underscore the importance of comprehensive approaches to rewilding efforts in Chile, where the combination of establishing protected areas, active wildlife management, and threat control are essential to preserving biodiversity and restoring ecosystems to health and functionality.

Conservation of the Andean condor

Union of Ornithologists of Chile, Filantropía Cortés Solari, and Rewilding Chile

The Andean condor (*Vultur gryphus*), the largest of the scavenger birds, is found throughout the Andes mountain range, from Venezuela to Cape Horn (Del Hoyo et al., 1994). This species, classified as Vulnerable globally and included in Appendix I of CITES, faces a particularly critical population decline in the northern Andes of South America. The populations in Chile and Argentina, although more numerous, also show signs of decline (BirdLife, 2020; Estrada-Pacheco et al., 2020). In addition to its ecological importance as a scavenger, the condor has been relevant to Andean cultures for millennia.

Systematic work with condors in Chile began in 1991 with the creation of the Raptor Rehabilitation Center (CRAR) of the Union of Ornithologists of Chile (Aves Chile). In 2014, Rewilding Chile and Aves Chile carried out a joint release in Patagonia National Park (then Estancia Valle Chacabuco) of three condors rehabilitated at the CRAR.

Since 2019, work with condors has been carried out within the context of the Manku Project, a collaborative initiative between Aves Chile, Rewilding Chile, and Filantropía Cortes Solari, with support from the National Zoo, SAG, and CONAF. The objective of the Manku Project is to conserve the Andean condor in the southern cone of South America. The program seeks to ensure the health of the condor population through various actions: captive management, rescue, rehabilitation, release, and monitoring; generation of in-situ and ex-situ information for conservation strategies; dissemination of rehabilitation and conservation work; and educational programs in rural areas to change the perception of the condor as a predator of livestock (Pavez et al., 2021).

Until 2025, first as CRAR-Aves Chile and then as Proyecto Manku, 200 condors have been managed, including 32 born in captivity. Of these, 100 have been released into the wild, and seven were sent to conservation programs in South America (Pavez and Saucedo, 2017). Due to the low natural and reproductive mortality rate of the condor and its late sexual maturity, identifying and controlling the mortality factors of the species has been essential (Pavez and Estades, 2017). Satellite tracking of released condors shows wide ranges of movement in Chile and Argentina, underscoring the need to develop binational conservation programs. For this reason, since 2001, the program has been working in coordination with Argentina's Bioandina Foundation.

Between 2014 and 2024, nine condors have been released in Patagonia National Park. These individuals, named Rey, Andino, Col Col, Liquiñe, Pumalín, Cuyén, Chicoco, Bagual, and Eclipse, were released as fledglings with no flying experience after spending two months in a pre-release cage, adapting perfectly to the Patagonian ecosystems.

Important lessons for rewilding programs include the need to work with rural communities to change perceptions of the condor, use charismatic species to promote ecosystem conservation, and collaborate with other institutions.

Figure 21. Condor release in Patagonia National Park in 2014. Credit: Francisco Croxatto.

Figure 22. Pumalín and Liquiñe in their pre-release stage in Patagonia National Park, 2022. Credit: Cristián Saucedo.

Reintroduction of the huemul in the Los Ríos Region

Huilo-Huilo Foundation and Biological Reserve

The Huilo-Huilo Biological Reserve is a privately protected area covering 100,000 hectares, nestled in the temperate rainforest of the Andean sector of the Los Ríos region, within the Southern Andean Temperate Rainforest Biosphere Reserve.

In the early 2000s, the Huilo Huilo Foundation was created with the mission of restoring the ecosystem balance in the area. Within this framework, it developed the Southern Huemul Conservation Center with the aim of breeding and reintroducing this species after several decades of extinction in the area. This effort is strategically located in an intermediate zone between the northern core of the huemul's distribution, in Chillán, and the southern core, in the regions of Los Lagos, Aysén, and Magallanes.

Over the course of 20 years of work and through the initial translocation of two huemul deer from Aysén and one from Los Lagos, the center has successfully maintained and bred the species, reaching a population of more than 40 individuals by 2025. This nucleus has facilitated the gradual reintroduction of the species in the mountainous areas of Neltume and Puerto Fuy, near the Mocho Choshuenco National Reserve, an area where the huemul lived until the 1980s (Saucedo et al., 2005; Vidal, 2010). In 2016, the first specimens were released, which managed to form family groups and record the first birth in the wild in 2020.

Currently, the Huilo Huilo Biological Reserve has two families of huemul deer, totaling seven individuals, which have been successfully reintroduced into their natural habitat. In 2018, the Shoonem Foundation in Argentina replicated part of the work carried out by this center and now has a similar center, developed with the knowledge and joint work between Shoonem and the Huilo Huilo Foundation (Flueck et al., 2022, Vidal et al., 2011).

In February 2025, one of the individuals born in the wild in Huilo Huilo crossed into the province of Neuquén in Argentina, covering around 120 km through the biological corridor formed between the reserve, Lanín National Park, and the northern sector of Nahuel Huapi National Park.

Since 2019, the Huilo Huilo Foundation and the Argentine National Parks Administration (APN) have had a joint working agreement to protect this corridor.

This initiative has marked a milestone by actively intervening in the recovery of a major endangered vertebrate. In addition, it has developed management protocols that serve as a reference for the reintroduction of the huemul in areas where it has disappeared, and are being used for initiatives that transcend national borders. Thanks to this project, the huemul has returned to a part of the mountain range that was once its home, regaining an essential place in the ecosystem.

Figure 23. First huemul deer released into the wild in 2016 in the Huilo-Huilo Reserve.
Credit: Huilo Huilo Foundation.

Considerations for the conservation of the continental population of the ruddy shelduck

Leñadura Bird Rehabilitation Center

The ruddy shelduck (*Tadorna ferruginea*) is a species endemic to Eastern Patagonia and the Falkland Islands, one of the five species of wild geese present in Chile and also the most threatened (Matus and Blank, 2019). There are two distinct populations: a migratory population in continental South America, estimated at between 900 and 1,700 individuals, and a sedentary population in the Falkland Islands, with approximately 40,000 pairs (Canevari, 1996; Blanco et al., 2003). The migratory population is concentrated in the Magallanes region, with its highest reproductive density at the mouth of the San Juan River, southeast of the Brunswick Peninsula, and travels more than 1,800 kilometers to its wintering grounds in the south of the province of Buenos Aires, Argentina (Matus, 2018). Although the IUCN classifies it as "Least Concern," in Chile it is listed as "Endangered" according to the Species Classification Regulations (RCE, 2023). In addition, it is protected by the Hunting Law and listed in Appendices I and II of the Convention on the Conservation of Migratory Species (CMS).

In Magallanes, the Leñadura Bird Rehabilitation Center (CRAL) has monitored the rufous-tailed thrush since 1999 and has been actively working on the recovery of this species since 2005, releasing more than 50 individuals from semi-captivity. These birds have returned to their natural habitat, using wetlands and grasslands. In 2014, a captive breeding pilot project funded by the Ministry of the Environment was carried out, resulting in the reintroduction of 17 specimens in the Tres Puentes Wetland in Punta Arenas. In an effort to protect the species, the Canquén Colorado Natural Monument was created in January 2019 at the mouth of the San Juan River. Two years later, in 2021, the Canquén Colorado Recovery, Conservation, and Management Plan was approved, establishing specific actions for its management and recovery. Given the critical state of migratory populations, and in the context of the creation of the new Cape Froward National Park (Figure 26), Rewilding Chile has joined conservation efforts, positioning the canquén colorado/ruddy-headed goose as an umbrella species that benefits the protection of other native species and their habitats.

In addition, CRAL is working on a proposal to taxonomically divide the red-winged blackbird. Considering, among other variables, a genetic study in which it participated (Kopuchian et al., 2016), which reveals a clear differentiation between the birds of Tierra del Fuego and Patagonia and those of the Falkland Islands, the proposal seeks to formally recognize these differences. If accepted, this taxonomic reclassification would allow for the adjustment of conservation priorities, ensure the necessary funding to protect the species' nesting areas, and promote more effective measures to safeguard the rufous-bellied thrush in its Fuegian-Patagonian habitat.

Figure 24. Pair of continental rufous-bellied steppe birds in the Leñadura sector. Credit: Ricardo Matus.

Figure 25. Female with her chicks, from the semi-captive breeding program at the Leñadura Bird Rehabilitation Center. Credit: Ricardo Matus.

Figure 26. Location of the future Cape Froward National Park and areas of importance for the red-necked rhea on the Brunswick Peninsula and surrounding areas (Source: Matus et al., 2000 and Magallanes GIS Platform – SAG). Prepared by: Rewilding Chile Foundation

Recovery of the pudú in La Araucanía

Andean Wildlife Foundation and Reserve

The pudú, a species endemic to the temperate forests of Chile and Argentina, is one of the smallest deer in the world and one of the least studied mammals of Chile's native fauna (Weber and González, 2003). Classified as "Vulnerable" by the Species Classification Regulation (RCE, 2023), it faces threats such as habitat fragmentation, forest loss, predation by dogs, competition with exotic species, and poaching (Jiménez and Ramilo, 2013; Jiménez, 2013).

In 2000, the Andean Fauna Foundation and Private Reserve in Villarrica, Araucanía Region, submitted a project to the Agricultural and Livestock Service (SAG) to create a breeding center for pudús and other species such as the guigna cat (*Leopardus guigna*). The objectives of the project are to establish a rehabilitation center for the pudú, convert a private property into a biological corridor, reintroduce the species into the reserve and the adjacent temperate forest, and generate ecological information for pudú management (Soorae, 2021).

Under the supervision of the Villarrica SAG, the center began receiving injured pudús, either for rehabilitation or as breeders if they were not fit for release. The first three years were particularly challenging, as previous experience with exotic deer was not applicable to this native species. The team emphasized the importance of key factors such as nutrition, stress management, understanding the social structure and behavior of the species (Soorae, 2021).

After five years, the project managed to rehabilitate around 70% of the individuals attacked by dogs, releasing them into adjacent national parks. It also had continued success in breeding, creating several breeding units and groups in separate pens. After a decade, the project received a donation of private land to start a reserve. Restoration began with the elimination of forest clearing and livestock activities, and a reforestation plan with native species, mainly of the Nothofagus genus. Currently, the center is home to about 50 pudú, and the reintroduction area has about 15 mature individuals that reproduce each year.

REWILDING EXPERIENCES BY CIVIL SOCIETY ORGANIZATIONS

Figure 27. Marking pudú with radio collars for later release and monitoring, Villarrica, Araucanía region. Credit: Fauna Andina, Retrieved from Soorae, 2021.

Figure 28. Pudú, one of the smallest deer species in the world. Credit: Benjamín Valenzuela.

Rescue of the Loa frog

National Zoo of Chile

The Loa frog (*Telmatobius dankoi*) is a micro-endemic amphibian that survives exclusively on the La Cascada slope, part of the Calama oasis in the Antofagasta region of Chile. Although its name suggests that it inhabits the Loa River, it is actually found 200 meters away from it. For years, this species was believed to be extinct (Lobos et al., 2016). It is currently classified as "Critically Endangered" by the IUCN Red List, making it one of the most threatened vertebrates in Chile and the world.

The story of the Loa frog's rescue began with a study to determine the environmental flows of the Loa River. In 2019, herpetologists visiting the Calama oasis found the place completely dry, with no signs of mud or moisture, and no traces of animals. However, they managed to locate a small muddy pool where they found the last 74 specimens of the Loa frog. The conditions of the site showed evidence of heavy machinery intervention.

Following this discovery, 60 frogs were transferred to the Ojo de Opache stream, 6 km from La Cascada, where the water had similar chemical conditions. Subsequently, in August 2019, a second rescue was carried out, taking the last 14 frogs to the National Zoo of Chile. These specimens were in very poor health due to the drying up of their habitat caused by the illegal diversion of irrigation channels and other anthropogenic interventions.

At the National Zoo, a rehabilitation and breeding program began in specially equipped aquariums with purified water and a varied diet of invertebrates. Thanks to this care, two pairs of frogs managed to reproduce, producing 600 tadpoles. The recovery process included nutritional assistance, adaptation to life in captivity, and stimulation of reproduction.

The National Zoo of Chile plans to expand the aquariums for breeding Loa frogs, but experts stress that captive breeding will be useless if they are not reintroduced into their natural habitat. Therefore, it is crucial to work on restoring their habitat. Among the proposed actions is the declaration of the Loa River as an urban wetland and the protection of the Ojo de Opache stream as a Nature Sanctuary, thus seeking to ensure a future for the Loa frog in its natural environment.

Figure 29. Loa frog in its natural habitat. Credit: Claudio Azat.

Figure 30. Experts Andrés Charrier and Claudio Azat rescuing Loa frogs. Credit: Santiago Metropolitan Park.

The race to save the Arica hummingbird from extinction

Union of Ornithologists of Chile and University of Chile

One of nine species of hummingbirds in Chile, the Arica hummingbird (*Eulidia yarrellii*) is the smallest bird in the country (2.5 g) and is in danger of extinction. It is endemic to the desert valleys of northern Chile and southern Peru, although recent assessments suggest that the species may be extinct in the neighboring country. It inhabits a few fertile valleys in the Atacama Desert, where very specific conditions exist due to the stable climate and abundant riparian vegetation (Estades and González-Gómez, 2024).

Since 2003, the Union of Ornithologists of Chile (Aves Chile), in collaboration with the University of Chile, has been monitoring the population of this species through annual reproductive censuses, which indicate a dramatic decline from 1,500 individuals to about 300 in 2021. Possible causes include habitat loss due to the burning of native riparian vegetation, its replacement by agricultural crops, the destruction of traditional productive plantations such as olive groves (used by hummingbirds for nesting), and the intensive use of pesticides. Other agricultural practices and competition with species such as the Cora hummingbird (*Thaumastura cora*), which spontaneously colonized the region several decades ago and has steadily increased its populations, are mentioned as secondary causes (Estades and González-Gómez, 2024).

Males of the species gather in “leks” during breeding season, where they establish territories close to each other and perform courtship dances, showing high fidelity to these sites even if they suffer deterioration. During the non-breeding season (February to August), hummingbirds occupy other areas, migrating towards the Andean foothills. The conservation of the sites where the leks are located has a high financial cost, driven by agricultural activities, which hinders effective and official protection.

Efforts led by Aves Chile have focused on implementing experimental management techniques to attract males and form new leks on public land, including the use of realistic hummingbird models and sound equipment.

Actions have also been tested in the area of food, through the propagation of plant species whose nectar has been identified as of interest to hummingbirds, as well as the use of artificial feeders.

It is undoubtedly a priority to continue with the development of population censuses, implement official conservation areas, and strengthen the management of the species and its habitat, in order to invigorate conservation actions and prevent the extinction of this species in the near future.

REWILDING EXPERIENCES BY CIVIL SOCIETY ORGANIZATIONS

Figure 31. Arica hummingbird, a critically endangered species (CR). Credit: María Angélica Vukasovic and Cristián Estades.

Recovery of yunco/ Peruvian diving petrel colonies and eradication of invasive alien species

Island Conservation, CONAF, and collaborators

The Humboldt Penguin National Reserve (RNPH), made up of the Choros, Damas, and Chañaral Islands, is best known for being home to 80% of the world's population of Humboldt penguins (*Spheniscus humboldti*). In the past, Chañaral Island was also home to more than 100,000 breeding pairs of yuncos (*Pelecanoides garnotii*). However, the introduction of invasive alien species in the early 20th century dramatically altered the ecosystem of the RNPH.

First, the arrival of the European rabbit (*Oryctolagus cuniculus*) on the Choros and Chañaral Islands led to the intensive occupation of seabird burrows and the destruction of native vegetation. Then, in the mid-20th century, foxes (*Pseudalopex sp.*) were introduced to Chañaral Island as a measure to control the rabbit population, which exacerbated the impact on seabirds and completely displaced the yuncos (Araya and Duffy, 1987). These actions made Choros Island the last significant refuge for the reproduction of the yunco within the reserve.

In 2013, CONAF and Island Conservation led the elimination of invasive rabbits from Choros Island, and in 2016 a similar intervention was carried out on Chañaral Island. As a result, in 2018, the RNPH was declared free of invasive vertebrate pests. The eradication of rabbits on Choros Island allowed for the recovery of native plants such as the field lily (*Alstroemeria philippii*) and the return of yuncos to nest, doubling the breeding area. This success was crucial for the IUCN to downgrade the conservation status of the yunco from "Endangered" to "Near Threatened."

In 2019, Island Conservation, CONAF, and the Catholic University of the North, with the support of the Puffin Project, implemented a social attraction (decoy) project on Chañaral Island. Using images and sounds from a real breeding colony, they managed to attract yuncos or diving petrels, which soon began to explore the island and build natural burrows. This effort culminated in a historic milestone: a yunco chick was born on Chañaral Island, the first in more than 40 years.

Another successful example of invasive species eradication very close to the RNPH in the region took place on Pájaro Uno Island, where invasive rats preyed on seabird eggs and chicks. In 2020, thanks to support from the David and Lucile Packard Foundation and Island Conservation, the rats were eliminated, and in 2022 the island was declared rat-free. Currently, social attraction techniques similar to those used on Chañaral Island are being used to encourage the return of the yunco to this area. These interventions demonstrate the positive impact of eradicating invasive alien species and restoring habitats, marking significant advances in the conservation of emblematic species such as the yunco and the Humboldt penguin, as well as the restoration of the ecosystems they occupy.

Figure 32. Magellanic penguin in flight near Choros Island, one of the islands that make up the Humboldt Penguin National Reserve. Credit: Bárbara Palma.

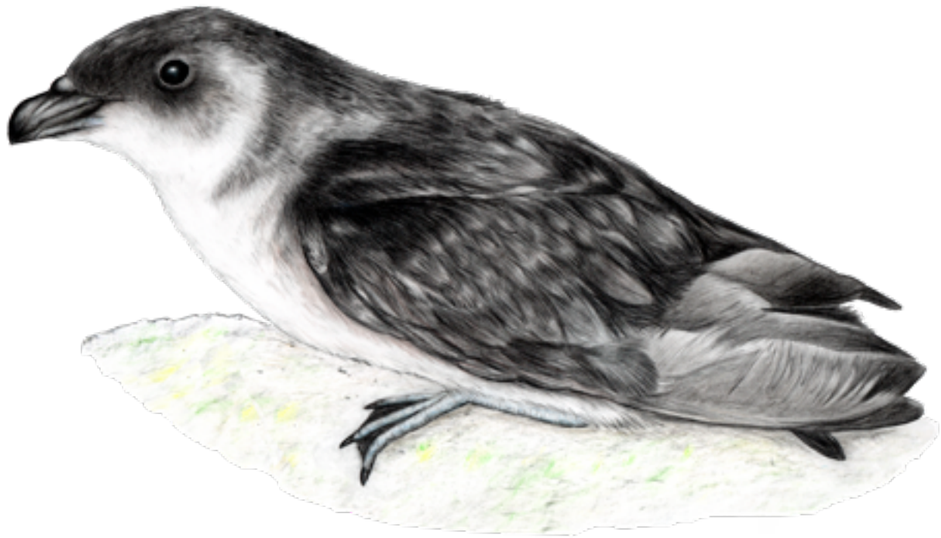

Figure 33. Illustration of a Magellanic penguin, a species classified as Endangered (EN) according to the Ministry of the Environment's Species Classification Regulations. Credit: Bárbara Palma.

Recovery and repopulation of guanacos in the mountain range of the Metropolitan Region

Metropolitan Region Nature Sanctuaries Network, Faculty of Forestry and Nature Conservation Sciences of the University of Chile, and Rewilding Chile

Historically, guanacos were the dominant ungulates in South America, but today less than 15% of their original population prior to European colonization remains, and their range has been reduced by 60% (Baldi et al. 2010). Today, populations are highly fragmented, and protected areas with available habitat are too small to support large population centers. In Chile, there are no formal national censuses, although there are estimates, such as the compilation by González (unpublished data), which indicate that the regions with the highest numbers of guanacos are Arica and Parinacota, Aysén, and Magallanes, with a total estimated population of between 62,000 and 66,000 individuals.

In the Metropolitan Region, there is a network of nature sanctuaries, a public-private partnership that brings together 13 sanctuary owners, the National Monuments Council, the Regional Ministerial Secretariat for the Environment, and the Metropolitan Regional Government. The objective is to improve the management and administration of these protected areas, under a comprehensive vision of biodiversity conservation. Together, these sanctuaries protect 170,000 hectares (11% of the regional territory) and have high potential for the development of nature-based tourism, an activity that contributes both to the local economy and to the protection of biodiversity. Most of these sanctuaries contain the guanaco's natural habitat, so there are plans to strengthen nature-based tourism and implement a pilot repopulation program in the mountain range.

Rewilding Chile has joined this working group, which includes the San Francisco de Lagunillas and Quillayal, El Plomo, and Cascada de las Ánimas sanctuaries, and through a collaboration agreement, it aims to establish guanaco breeding centers. From there, individuals will be obtained for the gradual repopulation of the mountain range in the Metropolitan Region. The agreement seeks to join forces to protect and restore the ecosystems of central Chile, specifically for the conservation of declining guanaco populations. It also includes work on ecological connectivity to propose new protected areas and promote participatory governance among all stakeholders involved in repopulation and nature-based tourism in the mountain range of the Metropolitan Region.

REWILDING EXPERIENCES BY CIVIL SOCIETY ORGANIZATIONS

Figure 34. Guanacos monitored for more than a decade by the University of Chile in the current Cruz de Piedra Nature Sanctuary, owned by Gasco Inversiones S.A., at the headwaters of the Maipo River. Credit: Josefina Olivari.

The work of Fundación Rewilding Chile

As reviewed in previous sections, rewilding begins with the establishment of protected areas that ensure the preservation of habitats and the restoration of fundamental ecological processes. These spaces provide the conditions for key species to resume their role in food chains and for ecosystems to regain their ecological integrity. In turn, the establishment of a network of protected areas not only protects large regions of high ecological value, but also functions as links for future corridors between landscapes, promoting connectivity and ecosystem resilience on a large scale.

As an example of efforts in this direction, this section presents the most emblematic projects in which Rewilding Chile, as the legacy organization of Tompkins Conservation, has collaborated. Rewilding Chile was officially founded in 2021, but its core team has been working in the region for more than 30 years, promoting various large-scale conservation initiatives in Chilean Patagonia. Its mission is to promote rewilding as a comprehensive conservation strategy in the Route of Parks of Patagonia to counteract the species extinction crisis and the climate crisis through the creation of national parks (both on land and at sea), the restoration of ecosystems, and the strengthening of communities' connection to nature.

Figure 35. The team with Douglas and Kristine Tompkins celebrating the declaration of Pumalín as a Nature Sanctuary by the government of President Ricardo Lagos in 2005. Credit: Rewilding Chile Foundation Archives

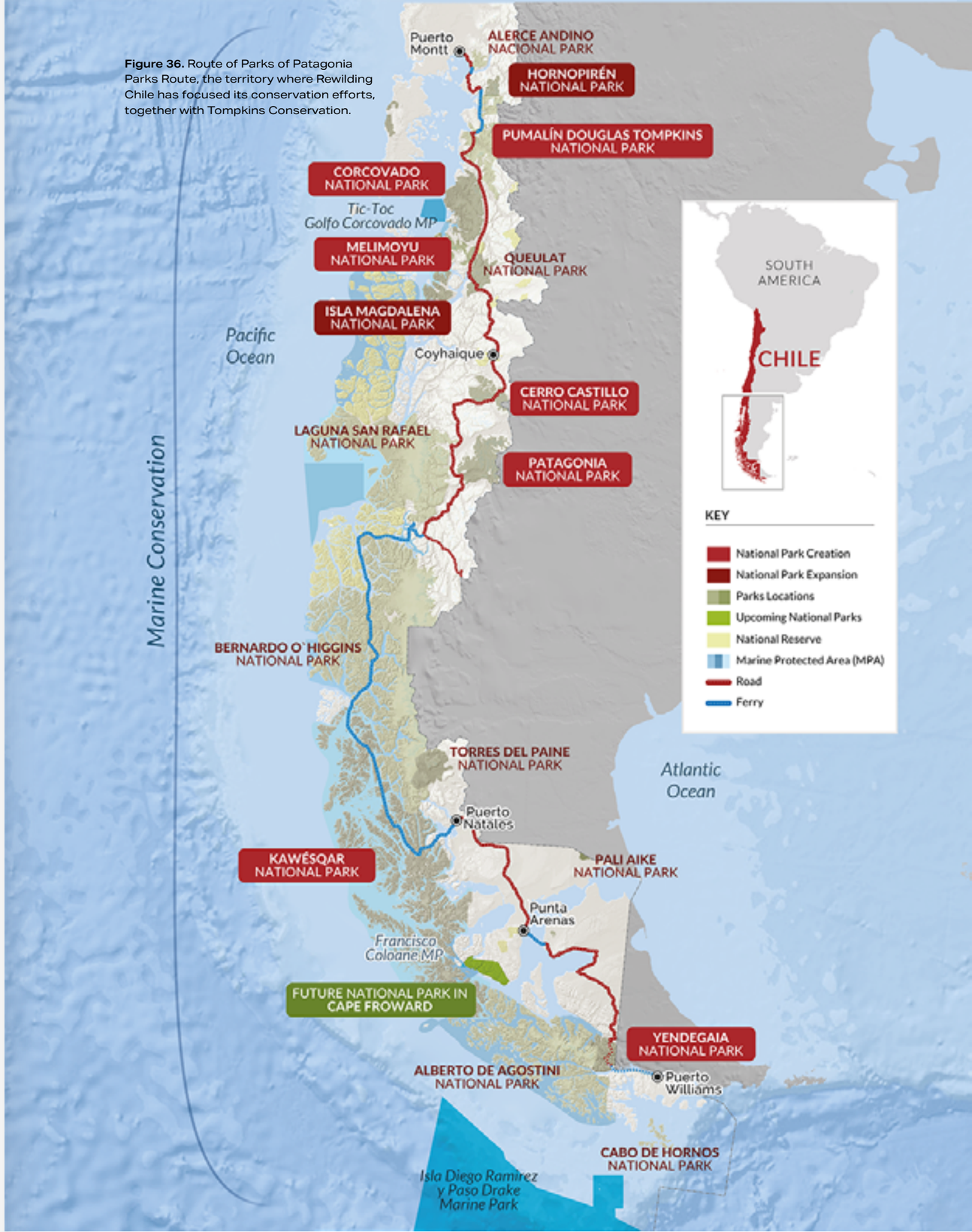

Figure 36. Route of Parks of Patagonia Parks Route, the territory where Rewilding Chile has focused its conservation efforts, together with Tompkins Conservation.

The creation of national parks as the central axis of rewilding

True to the vision of Tompkins Conservation, Rewilding Chile has focused on the creation and strengthening of national parks, considered the most effective strategy within Chilean legislation for conservation in the face of the species extinction crisis and the climate emergency. To date, it has collaborated in the process of creating seven national parks and expanding three others, achieving the protection of more than 4 million hectares in collaboration with the Chilean government. Today, the foundation is in the process of creating a new national park in Cape Froward, protecting the southernmost habitat of the huemul and home to sub-Antarctic forests and peat bogs of high conservation value.

Below is a list (Table 1) of the parks that the foundation has helped to create under the auspices of Tompkins Conservation, followed by a more detailed look at the cases of the Pumalín Douglas Tompkins and Patagonia National Parks and their specific conservation and restoration projects. These parks, equipped with first-class infrastructure, demonstrate that investment in national parks can turn them into engines for local economic development.

NATIONAL PARK (CREATED OR EXPANDED)	DATE OF THE DECREE	TOTAL AREA (ACRES)	LAND (ACRES) DONATEED BY TOMPKINS CONSERVATION
Hornopirén (Expansion)	10/10/1988 (Expansion 15/01/2018)	170.920	266
Pumalín Douglas Tompkins (Creation)	09/08/2018	994.332	724.853
Corcovado (Creation/Expansion)	06/07/2005 (Expansion 09/08/2018)	988.421	209.436
Melimoyu (Creation)	09/08/2018	260.696	-
Isla Magdalena (Expansion)	11/07/2018 (Expansion 27/03/2018)	617.051	-
Cerro Castillo (Creation)	07/07/2018	354.601	-
Patagonia (Creation)	11/12/2018	752.502	206.908
Kawésqar (Creation)	30/01/2019	7.023.547	65.349
Cabo Froward (Creation)	In process	In process	In process
Yendegaia (Creation)	06/08/2013 (Expansion 05/03/2016)	372.108	93.900

Table 1. List of national parks, ordered from north to south, that Tompkins Conservation, with the support of the Rewilding Chile team, has helped to create or expand.

Of these parks, Corcovado and Yendegaia National Parks were the first to be officially established, in 2005 and 2013, respectively, following important property donations by Tompkins Conservation in collaboration with the governments of Ricardo Lagos and Sebastián Piñera. In 2017, a key agreement was signed with the government of Michelle Bachelet to create five new national parks and expand three existing parks, including Corcovado.

This donation process represents the largest transfer of land for conservation purposes from a private entity to a State in history and catalyzed the addition of state-owned lands to create even larger protected areas in the final national parks. Table 1 summarizes the national parks created through collaboration between the Chilean government and Tompkins Conservation.

Figure 37. President Michelle Bachelet and Kristine Tompkins sign the Collaboration Protocol for the creation of the Route of Parks of Patagonia in Pumalín Douglas Tompkins National Park. Credit: Antonio Vizcaíno.

Pumalín National Park Douglas Tompkins: a vision of public-private conservation is born

The creation of Pumalín National Park has its origins in the early 1990s, when American philanthropist Douglas Tompkins traveled through the area to learn about the richness of its ecosystems, characterized by abundant larch forests (*Fitzroya cupressoides*). Impressed by the region's ecological diversity, between 1991 and 1994, through a non-profit foundation, he acquired nearly 80% of the land that would make up this park. His main objective was to transform these lands into a first-class protected area, building infrastructure for public use and restoring areas affected by human activities, and then donating them to the state to achieve the highest category of protection as a national park. In 2005, the first major milestone in this direction was reached when it was declared a nature sanctuary by the Chilean government.

In parallel with the purchase of land, it was necessary to work intensively with government agencies to ensure the protection of the territory and regularize the situation of the neighboring coastal inhabitants, ensuring that each inhabitant had their property title to avoid boundary disputes. This guaranteed an orderly buffer zone (a buffer zone for the protected area) and helped reduce threats, such as the presence of domestic livestock and dogs, among others.

Engagement with local communities was also key in this process, notably the beautification project in the town of El Amarillo, which sought to strengthen local pride by improving the facades, fences, and gardens of this community, which is the gateway to the park. Another noteworthy initiative was the Scenic Routes Project, which sought to enhance the beauty of the road that runs through part of the park and the El Amarillo sector, incorporating the concept of Scenic Routes into the institutional framework, thus improving the standards of the Carretera Austral.

In another area of action, work was carried out in this zone to restore forests through the Alerce 3000 Project, which propagated plants through an agreement with the Edmundo Winkler Experimental Station of the University of Chile, reaching an annual production of 60,000 plants of 23 native species (Suárez, 2019). The restoration program carried out a pioneering experiment in the production of native species and forest restoration, covering some 160 hectares.

Through all these actions, which included the creation of the protected area, an ecological restoration and community outreach plan, and after 12 years of operating as a private park with public access, on March 15, 2017, a memorandum of understanding was signed with the Ministries of Environment, National Assets, the Undersecretary of Tourism, and the National Forestry Corporation to bring to life this park that bears the name of its founder.

Currently, the park covers a total area of 402,392 hectares, of which 293,338 were donated by Tompkins Conservation to the Chilean government. Today, work in the park continues through various programs promoted by Rewilding Chile, with wildlife and community outreach projects.

Figure 38. Landscape of Pumalín Douglas Tompkins National Park. Credit: Antonio Vizcaíno.

Figure 39. Restoration of the Amarillo sector, Pumalín Douglas Tompkins National Park, after the 2008 eruption of the Chaitén volcano. Credits: Rewilding Chile Foundation Archives.

Figure 40. Restoration work with the Méndez Villegas family in Chumeldén, a coastal community in Chaitén. Credit: José Suárez.

From cattle ranch to functional ecosystem: creation of Patagonia National Park

Patagonia National Park is one of Chile's most important rewilding projects and a symbol of large-scale conservation in South America. This park encompasses the former Tamango and Jeinimeni National Reserves, along with the Chacabuco Valley, an area donated to the Chilean government by Tompkins Conservation that previously housed one of the country's largest cattle ranches.

In 1995, Kristine and Douglas Tompkins visited the Chacabuco Valley for the first time and recognized the urgent need to restore it to its natural state and ensure its protection. CONAF had already identified this area as a conservation priority due to the uniqueness and biological diversity of its ecosystems. Notable features of this area include deciduous forests, the Patagonian steppe ecosystem, rocky outcrops, a wide variety of wetlands, and characteristic wildlife that includes guanacos, huemul deer, pumas, eagles (*Geranoaetus melanoleucus*), and condors.

In 2004, a foundation linked to the Tompkins family (Conservación Patagónica), with the support of various donors, acquired Estancia Valle Chacabuco, a property of around 70,000 hectares. Over the following years, other properties were added, reaching more than 83,000 hectares, which in 2018 were officially transferred to the Chilean government.

Over a period of 15 years, actions were implemented to restore these ecosystems, which had been degraded by more than 100 years of overgrazing (Herrera et al., 2017). Extensive livestock farming in the Chacabuco Valley controlled predators such as foxes (*Lycalopex culpaeus* and *L. griseus*), pumas, and birds of prey, and displaced native herbivores such as guanacos and huemul deer, which competed for food resources such as coironales, wetlands, scrublands, and forests. Fortunately, many of the native species still persisted in the area, albeit in low densities. Long-term monitoring of these species, whose presence serves as an indicator of ecosystem health, became an essential conservation activity.

The conversion of the territory included rewilding actions such as the removal of fences and posts that limited the movement of guanacos, the gradual removal of domestic livestock, the control of threats (dogs and livestock) in priority areas for huemuls, the control of invasive alien species such as rosehip and exotic pines, and the protection and monitoring of predators such as pumas and foxes. Measures were also implemented to mitigate conflict between predators and sheep farming, and populations of species at risk of local extinction, such as the southern rhea (*Rhea pennata*), were reinforced.

Figure 41. Conversion of a cattle ranch into a national park. Credit: Rewilding Chile photo archives.

Currently, the guanaco population in Patagonia National Park has grown to between 1,500 and 2,500 individuals, establishing itself as one of the most important in the Aysén region. Thanks to these efforts, guanacos have managed to recover the habitat they had lost. This population is heavily regulated by the puma, which also generates carrion that benefits other species, such as Andean condors, caracaras (Caracara plancus), foxes, and armadillos (*Zaedyus pichiy* and *Chaetophractus villosus*). These dynamics have allowed the restoration of functional relationships between species and ecosystems, mitigating the impacts of climate change and generating a series of positive externalities for the web of life (Saucedo, 2022).

Today, Rewilding Chile continues its work through its wildlife programs, which operate in collaboration with CONAF within the park. These programs focus on the conservation and monitoring of emblematic species such as the huemul, puma, ñandú, condor, and small felines, among others.

Below are some of the wildlife programs being developed in Patagonia National Park.

Figure 42. Transition in the initial stage from a cattle ranch to a conservation area. Credit: Rewilding Chile Foundation Archives.

Figure 43. Transition in an advanced stage from a cattle ranch to a conservation area. Credit: Rewilding Chile Foundation Archives.

CONSERVATION AND MONITORING OF THE HUEMUL

Given the critical situation of huemul populations in Chile, this species was identified as a priority for rewilding actions in Patagonia National Park. The connection between the former Jeinimeni and Tamango National Reserves and the Chacabuco Valley sector, together with the removal of fences and livestock, allowed for the establishment of a natural corridor for the huemul. This corridor has helped strengthen the population over the years. In addition, the continuity of Nothofagus environments and the control of threats, such as unsupervised dogs and domestic livestock, have been essential elements in restoring lost ecological connectivity (Saucedo, 2019).

Conservation efforts in Patagonia National Park have required the permanent presence of park rangers, who work to mitigate threats and implement a comprehensive monitoring program for the huemul. This program combines visual recognition of individuals with the use of radio telemetry collars, as well as specific tracking of mothers and calves. Thanks to these actions, the park is now home to more than 10% of the remaining huemul population, establishing itself as an important refuge for this endangered species. After 20 years of monitoring in the northern area of Lake Cochrane, not only has there been an increase in the number of huemuls, but also a significant expansion of the areas they occupy. These results reflect the positive impact of the rewilding strategies implemented and position Patagonia National Park as a model to be replicated for the recovery of the huemul and other threatened species.

Figure 44. Huemul with radio collar near Lake Cochrane, Patagonia National Park. Credit: Cristián Saucedo.

Figure 45. Daniel Velásquez, Rewilding Chile park ranger, recording huemul monitoring data in the Lake Cochrane sector, Patagonia National Park. Credit: Jan Vincent Kleine.

RECOVERY AND CONSERVATION OF THE ÑANDÚ

The rhea or choique is the largest bird among the native species of Patagonia, notable for its ability to run across the Andean and Patagonian steppes of South America. Despite its wide distribution in the region, rhea populations are declining (Birdlife, 2018). The species is most abundant in the Magallanes region, but in Aysén it is endangered, found only in two areas with significant populations: Ñirehuao, north of Coyhaique, and Patagonia National Park. Before the creation of the national park, the latter population remained isolated for more than a century due to livestock fences, facing a high risk of local extinction (Saucedo et al., 2019a).

In 2014, Tompkins Conservation established the first wildlife ranger station in the area, along with a nursery called Puesto Ñandú, to protect wildlife and monitor rheas. At the end of that same year, the Chilean police rescued two charitos (rhea chicks), which became the first birds at the Rhea Breeding Center, created in accordance with the Hunting Law. This center, the first of its kind in Aysén, set as its goal to prevent local extinction and expand the distribution of the rhea within Patagonia National Park until the population is self-sustainable in numerical terms.

The center's activities include censuses, individual registration, and monitoring of reproductive indicators, combining in situ conservation with captive management techniques and controlled releases to strengthen the population.

Since the program began, 160 rheas have been released in Patagonia National Park, thanks to coordinated work between the Quimán Reserve Reproduction Center, Estancia Baño Nuevo, the Agricultural and Livestock Service (SAG), and various collaborators such as neighbors, police, the Chilean Army, ranchers, and CONAF to translocate eggs and individuals to increase genetic diversity and the chances of success in population recovery (Saucedo et al., 2019b). In a simple projection, considering an annual release of between 10 and 20 juvenile rheas with a survival rate of 30% over a period of 15 years, it would be possible to achieve a rhea population of more than a hundred individuals in the wild.

Figure 46. Arrival of charitos from the Quimán Reserve (Futrono) to Patagonia National Park. Credit: Jan Vincet Kleine.

Figure 47. Rheas at the Reproduction Center for the conservation of the species in the eastern part of Patagonia National Park. Credit: Jan Vincent Kleine

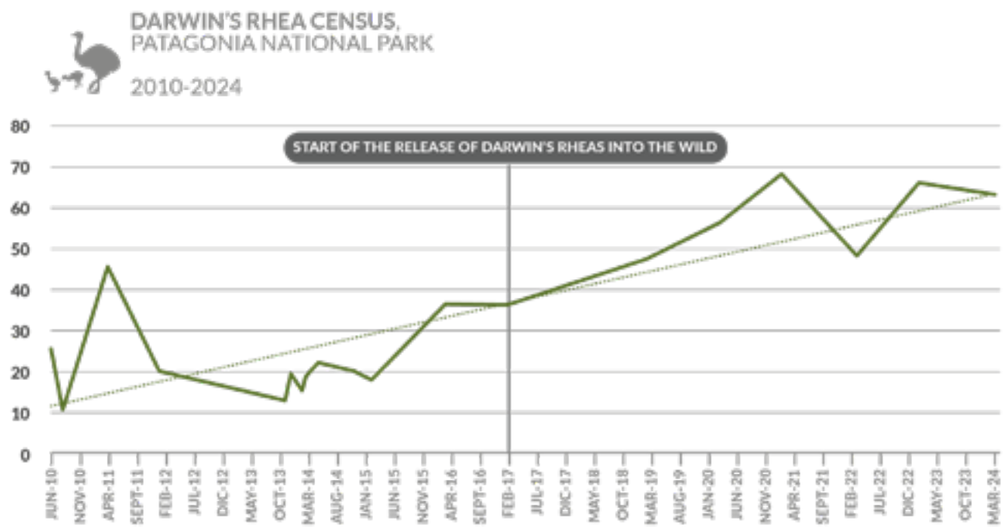

Figure 48. Graph of rhea censuses and population trends in Patagonia National Park. Prepared by: Rewilding Chile Foundation.

RECOVERY AND CONSERVATION OF THE RHEA

Binational Translocation from Argentina to Chile

In March 2025, Argentina and Chile made history with the first binational translocation of wildlife, a milestone for the recovery of endangered species, led by Rewilding Argentina and Rewilding Chile, legacy organizations of Tompkins Conservation.

This involved the transfer of 15 Patagonian rheas (*Rhea pennata*) from Estancia El Unco in PatagoniaPark Argentina, in the province of Santa Cruz, to Patagonia National Park Chile in the Aysén region, to reinforce a population that, until 15 years ago, was on the verge of local extinction and to contribute to the genetic diversity of the population in Patagonia National Park Chile. This is the first time that wild animals have been captured and transferred from one Latin American country to another for conservation purposes.

Figure 49. Cross-border translocation of rheas from Argentina to Chile.
Prepared by: Rewilding Chile Foundation

Although the distance between the two parks is only 90 km, barriers such as wire fences and livestock fences, among others, limit their natural movement, making this intervention necessary. The rheas were transferred from a healthy population in Patagonia Park Argentina, where conservation efforts by Rewilding Argentina have enabled their recovery and ensured a healthy population, minimizing the impact on the original group and contributing to the restoration of the species in Chile.

There are no specific protocols for translocations such as these, which required significant coordination and cooperation between institutions in both countries. This joint effort between countries managed to coordinate the health and border control aspects for the export and quarantine of the rheas.

This initiative, which brings together the public and private sectors and neighboring countries in favor of conservation, can be replicated in future actions to recover populations of threatened species and the health of ecosystems.

Globally, translocations for conservation have become a key tool for restoring endangered species. However, their use in Latin America has been limited. This first case of international wildlife translocation in the region sets a precedent and reinforces the need for greater cooperation between countries to address the biodiversity crisis.

This coordinated effort not only represents progress in the recovery of a key species in steppe ecosystems, but also an example of the positive impact that can be achieved through collaboration between institutions and communities in rewilding projects.

Figure 50. Arrival of rheas from Patagonia Park Argentina to quarantine pens in Patagonia National Park in Chile.
Credit: Marcelo Mascareño

MONITORING OF THE PATAGONIAN PUMA AND MANAGEMENT OF CONFLICT WITH LIVESTOCK

The puma, Chile's largest feline, is classified as Vulnerable under the Hunting Law. Its situation is due to various threats, such as intensive hunting, habitat modification and occupation, urban expansion, and the decline of its natural prey.

In 2008, a puma monitoring program was launched with the support of National Geographic and the University of California to assess the impact of the puma as a predator on both native and domestic herbivore populations in the context of the transition from a cattle ranch to a protected area.

Through the capture of specimens and the use of radio collars with GPS technology, key information was generated on the diet, territories, movements, mortality factors, and population densities of pumas in the Chacabuco Valley, Aysén region (Elbroch and Wittmer, 2012a, b). By 2021, 33 pumas had been tagged, allowing for an estimated population density of 3.44 pumas per 10,000 hectares, with a total of between 28 and 30 adult pumas residing in the Chacabuco Valley of Patagonia National Park.

This program was also a pioneer in Chile in implementing effective measures to control and prevent puma attacks on domestic livestock. Between 2008 and 2017, herd protection dogs were introduced, significantly reducing conflicts between the species and livestock farmers (Herrera et al., 2017; Herrera and Saucedo, 2019).

Since Patagonia National Park was officially declared a protected wilderness area, the program has refocused its efforts on monitoring the interaction between pumas and visitors in public use areas. This monitoring combines data from tagged pumas with a network of camera traps installed by CONAF and Rewilding Chile.

The program continues to be an example of how scientific research can guide conservation strategies while promoting coexistence between predators and human communities.

Figure 51. Capture and tagging of pumas, as well as work on coexistence with livestock guardian dogs in Patagonia National Park. Credit: Rewilding Chile Foundation Archives.

Figure 52. Adult female puma captured and monitored with a radio collar in Patagonia National Park. Credit: Jimmy Valdés.

The National Huemul Corridor

The creation of ecological corridors plays a fundamental role in the success of rewilding initiatives by facilitating the movement and dispersal of species, promoting the recolonization of areas, preserving genetic diversity, and contributing to the restoration of ecosystem functionality (Soulé and Noss, 1999).

In this context, Rewilding Chilehas promoted the Huemul National Corridor, an initiative aimed at restoring connectivity between huemul subpopulations in key areas of Patagonia (see Figure 54). This effort not only seeks to recover this emblematic endangered species, but also to protect the ecosystems in which it lives alongside other species, thus promoting the conservation of ecological integrity on a large scale.

Figure 53. Huemul in the wintering area in the Las Horquetas sector, adjacent to Cerro Castillo National Park, Aysén Region. Credit: Rody Álvarez

The National Huemul Corridor seeks to establish a conservation and monitoring network along the Patagonian Andes. To this end, Rewilding Chile works closely with the government, private landowners, and various non-governmental organizations, developing coordinated actions that address the main conservation issues facing the species. On March 6, 2023, Rewilding Chile and the Ministry of Agriculture (which oversees CONAF and SAG) signed a collaboration agreement that formalized this initiative.

Among the actions carried out to date, the following stand out: field surveys, the collection of key scientific information, population monitoring using camera traps, and the identification of threats, actively promoting the removal of fences, livestock control, and the implementation of preventive health management measures to prevent the transmission of diseases from domestic livestock to huemul deer. These actions are complemented by the capture of individuals and their monitoring through radio collars, as well as active management of the species. A key aspect of this strategy is local capacity building, promoting the development of specialized techniques for huemul management in the field.

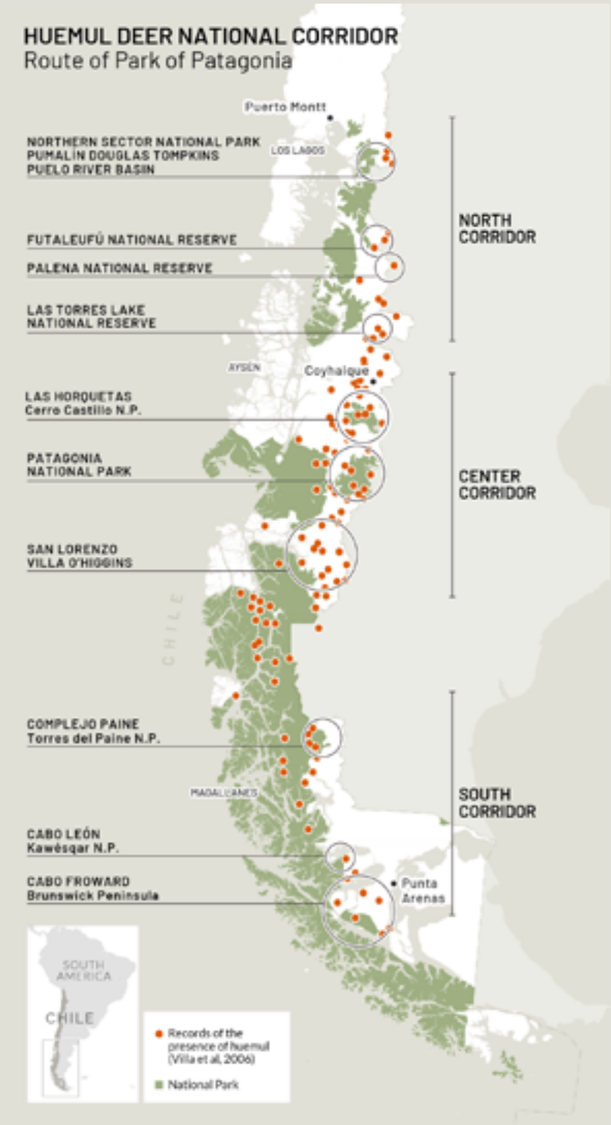

Figure 54. Map showing the 10 sectors of the National Huemul Corridor (circles) and records of huemul presence (orange dots) according to Vila et al., 2006.
Prepared by: Rewilding Chile

A KEY SPECIES FOR GLOBAL ECOLOGICAL RESTORATION

The National Huemul Corridor finds significant support in recent scientific literature. According to a global analysis published by Vynne et al. (2022), which evaluated nearly 300 species of large mammals, the huemul was identified as one of the 20 species with the greatest potential to catalyze large-scale ecological restoration processes. This recognition is based on its critical conservation status, the presence of extensive areas of habitat still available, and the real possibility of recovering its range through coordinated management and reintroduction actions. The study emphasizes that many large mammals have seen their populations and ranges drastically reduced in recent decades, and that restoring them to their former ranges could have significant benefits for both biodiversity and climate stability by promoting the functional recovery of ecosystems and carbon storage.

The study by Vynne et al. proposes advancing the reintroduction of these 20 priority species in at least one or more large habitat blocks per ecoregion. In the case of the huemul, the existence of large areas with suitable habitat in Chilean-Argentine Patagonia, as well as the accumulated experience in the creation, management, monitoring, and restoration of protected areas, make it an ideal candidate to lead these processes. Furthermore, its value as an umbrella species reinforces the importance of its conservation, as its protection simultaneously benefits multiple species that cohabit within its ecosystem.

Figure 55. Huemul deer sighted on an expedition led by Rewilding Chile to Cape Froward in February 2025, where the presence of this species was confirmed at its southernmost point of distribution. Credit: Eduardo Hernández.

THE FIRST HUEMUL RESCUE AND REHABILITATION CENTER IN CHILE

As part of the actions outlined in the National Huemul Corridor, Rewilding Chile has completed the construction of Chile's first Huemul Rescue and Rehabilitation Center in the Las Horquetas sector. This property, acquired by the organization in 2019, borders Cerro Castillo National Park in the Aysén Region and is located in a wintering area that is vital for the species.

This center was authorized by the Agricultural and Livestock Service in August 2025 and seeks to address the rescue and rehabilitation challenges faced by the species in the area, where huemuls are affected by roadkill, dog attacks, and diseases, notably caseous lymphadenitis (CL). This disease, caused by the bacterium Corynebacterium pseudotuberculosis, is transmitted from domestic livestock and can be fatal to huemuls if they do not receive timely treatment.

The center provides a suitable environment for implementing consistent veterinary treatments and closely monitoring the progress of individuals, increasing the chances of recovery and successful reintegration of the animals into their habitat.

The only one of its kind in Chile, the Huemul Rescue and Rehabilitation Center stands out for its multisectoral approach, which encourages collaboration between the public and private sectors. It has the support of the Ministry of Agriculture, represented by the national directors of SAG and CONAF, as well as the advice of experts in the management and conservation of this species. Its development reaffirms the collective commitment to protect the huemul, a symbol of Patagonian biodiversity, and to ensure its preservation for future generations.

Figure 56. Inauguration of the Huemul Rescue and Rehabilitation Center, October 2025. Credit: Francisco Espíldora

Andean Corridor: vision, challenges, and projections

Faced with growing human pressure on ecosystems, which has triggered a massive process of biodiversity loss, it is clear that isolated conservation efforts will not be enough to halt this crisis. In response, rewilding proposes a comprehensive approach to nature protection and restoration, highlighting the importance of protected wilderness areas, active wildlife management, and threat control. As compiled in this document, rewilding has consolidated its place among global conservation strategies and actions, and has gained ground in Chile thanks to a set of initiatives that have combined public and private efforts. By its very nature, this strategy is dynamic and ambitious, which inevitably leads us to the question: What are the projections for rewilding in Chile?

To begin to answer this question, it is necessary to look back at the development of the concept of rewilding, particularly based on the vision of Foreman (2004) and the precursors of rewilding who advocated for the creation of large-scale ecological corridors capable of covering vast areas of territory.

In this context, Chile finds itself at a crossroads of challenges and opportunities that will define its role in the coming decade. Within this framework, Rewilding Chile is promoting a vision of continental collaboration, whose central axis is the Andes Mountains or the Andean Corridor. From Venezuela to the confluence of the Pacific, Atlantic, and Antarctic Oceans, this proposal seeks to integrate national and international efforts to weave a network of rewilding actions that transcend geopolitical borders, coordinating common objectives for the most threatened species: reversing extinction rates, restoring habitats, protecting biodiversity refuges, and promoting corridors capable of sustaining viable populations and functional ecosystems.

Within this vision, Chilean Patagonia presents itself as a rewilding vision, where extensive fragments of relatively intact nature still exist, in which great progress has been made in consolidating vast expanses of national parks, forming wilderness areas under the highest category of protection.

The execution of huemul and rhea translocation projects has demonstrated not only the technical viability to recover populations that are weakened or on the brink of local extinction, but also the capacity to generate positive effects on biodiversity at the ecosystem scale, since re-establishing these key species reactivates trophic processes and strengthens interaction chains that restore health to natural systems.

Figure 57. Species like the guanaco have lost more than half of their available habitat along the Andean Corridor. Credit: Guillermo Sapaj

Transferring this model of success to other areas of the Andean Corridor requires building strategic alliances between the public sector, the private sector, academia, and local communities in all the countries that compose it. Experiences such as the guanaco repopulation project in the central zone, developed in collaboration with the Metropolitan Region Nature Sanctuaries network and the Faculty of Forest Sciences and Nature Conservation of the University of Chile, illustrate how ecosystem-scale restoration can adapt to more fragmented environments with a recent history of local extinction. Based on coordinated action, the management of the species in semi-captivity, and a gradual release plan combined with the natural recovery that the species has been experiencing in some areas of the Metropolitan Region mountain range, a path of hope is now visible to support the recovery of the guanaco in the most densely populated region of Chile and extend these actions to other points in the Andes, thus generating new opportunities for nature-based tourism and integration into local economies.

Simultaneously, several species in a state of extreme threat pose urgent challenges that demand technical responses and immediate actions. For example, the Arica hummingbird, already extinct in Peru, and whose population has dropped from about 2,000 individuals two decades ago to barely 300 in the Camarones Valley, requires the implementation and protection of the critical areas and refuges it needs, as well as the development of active management initiatives for the species. Likewise, the Loa water frog, recently rescued from its last natural refuge, reinforces the importance of having captive breeding centers that allow for its safeguard, while time is gained to take measures in the areas where the species can inhabit in order to avoid its imminent extinction. Along the same lines, Darwin's frog, an endemic amphibian of the temperate forests of the Southern Cone, is possibly the second most threatened amphibian in Chile, which reinforces the call to act jointly for its conservation in the face of the worrying loss of its habitat, as well as the advance of the chytrid fungus, a disease that causes high mortality in the species in a context of climate change.

Figure 58. Darwin's Frog in Pumalín National Park. Credit: José Besa

In this same framework, the puma (*Puma concolor*), as the terrestrial carnivore with the widest distribution in America, plays a central role in the regulation of trophic networks and in the functional restoration of the Andean Corridor's ecosystems. Its presence as an apex predator has been documented in experiences such as those in Patagonia and Torres del Paine National Parks, where its recovery has contributed to the reconfiguration of ecological dynamics, including the natural control of herbivores and the provision of food to different species, in addition to increasing biodiversity. Therefore, it becomes a priority to advance towards effective strategies where its recovery is accompanied by the implementation of coexistence with livestock production systems in the different ecosystems that make up its distribution range.

For its part, the Andean condor, highly threatened especially in its northern distribution between Colombia and Bolivia, requires a permanent monitoring system and the reduction of threats (among which are poisoning, collisions with power lines or transmission lines, reduction of food sources) and the implementation of translocations that ensure a flow of individuals from areas where its abundant population enjoys greater health to areas where its numbers are severely reduced. Recovering the condor across the extent of its original distribution is presented as one of the great challenges for the continent, where Chile, Argentina, and Colombia have already implemented population reinforcement initiatives using the rescue and reproduction of individuals in captivity, as well as the releases of rescued and rehabilitated individuals. It is also important to learn from successful cases already carried out, such as the California Condor recovery program, which has demonstrated how alliances, active management, and captive breeding can reverse the extinction of a critically endangered species.

Figure 59. Andean condor, present throughout the entire Andean Corridor, is already extinct as a resident in Venezuela, and in countries like Colombia and Ecuador, populations are greatly diminished and on the brink of local extinction.
Credit: Hernán Povedano.

In South America, we already have a valuable precedent of transboundary rewilding for the Andean Corridor, where Chile (together with Peru and Bolivia) took a leading role with the successful reintroduction of the vicuña in Ecuador. This achievement demonstrates that, when Andean countries join forces, it is possible to implement actions to reverse trends in biodiversity loss beyond administrative borders. Inspired by this precedent, the Andean Corridor aspires to promote, replicate, and expand rewilding initiatives, ensuring that the recovery of key species, the restoration of habitats, and the control of threats are carried out in an integrated manner along the mountain range and where the greatest conservation challenges arise.

In Chile, these challenges are broad and are expressed with particular clarity when considering the diversity of species that inhabit the ecosystems of the Andean Corridor, from the high peaks of the Andes to the Pacific Ocean coast. In addition to the cases highlighted previously, it is essential to act on the threats that affect other key species, remembering that rewilding seeks to restore the health of complete ecosystems. Among these are the flamingos (*Phoenicoparrus jamesi*, *P. andinus*, and *Phoenicopterus chilensis*) and other aquatic birds, which act as indicators of the integrity of high-altitude wetlands, today severely pressured by the alteration of the water systems they inhabit. Also highlighted are mountain rodents such as the different species of vizcacha and chinchilla, of the genera Lagidium and Chinchilla, and highly threatened species, such as the taruca or northern huemul (*Hippocamelus antisensis*), and the suri or northern rhea (*Rhea pennata tarapacensis*), whose recovery is essential for the ecological balance of high Andean ecosystems.

Figure 60. Flock of Chilean Flamingos in Patagonia National Park. Credit: Linde Waidhofer.

Figure 61. One of the challenges for the coming years is how to integrate rewilding into marine and coastal environments. Credit: José Luis Kappes.

In forested and lower altitude areas, species such as the kodkod (*Leopardus guigna*) and the southern pudú (*Pudu puda*) become relevant, which share similar threats related to habitat fragmentation, urban expansion, and the impact of domestic animals. Their conservation demands differentiated strategies, but articulated around the restoration and maintenance of native forest and the reduction of anthropogenic pressures. It is also key to highlight the group of medium-sized carnivores that inhabit different environments in the country, such as the Andean cat (*Leopardus jacobita*), the colocolo cat (*L. colocola*), the culpeo fox (*Lycalopex culpaeus*), the Chilla fox (*L. griseus*), and Darwin's fox (*L. fulvipes*), all of which play fundamental regulatory roles. Finally, semi-aquatic mustelids such as the huillín (*Lontra provocax*) and the marine otter (*L. felina*) represent true sentinels of the health of riparian and coastal ecosystems, and their conservation requires urgent measures for habitat preservation, control of local threats, and long-term monitoring.

Along these lines, rewilding in coastal and marine environments represents a fundamental element within this continental vision. The extensive Chilean coast, from the Arica and Parinacota Region to the Magallanes and Chilean Antarctica Region, where highly relevant ecosystems such as the Humboldt Penguin National Reserve and the fjords and channels of Patagonia stand out, offers particular challenges for large-scale protection and restoration. Initiatives aimed at the recovery of large key and migratory species, such as whales and sharks, must be complemented with the protection of highly relevant habitats such as macroalgae forests (*Macrocystis pyrifera*) and benthic biodiversity hotspots. Incorporating these challenges into rewilding actions reinforces the commitment to biodiversity from an integrated vision, which recognizes the continuity between land and sea as a basis for the resilience of wildlife in the face of the aggravated global environmental panorama.

In this way, rewilding in Chile is projected as the starting point of the Andean Corridor, a collaborative network that extends from Patagonia and its seas along the continent's backbone to protect and restore complete ecosystems. By scaling recovery northwards for species on the brink of extinction, as well as re-establishing key ecological interactions, it is necessary to create cross-border synergies aimed at optimizing resources, sharing lessons learned, and amplifying the impact of each initiative. This comprehensive approach articulates active management, reintroductions or population reinforcements, the restoration of critical habitats, and the establishment of corridors and nuclei of protected wild areas. Thus, from the southernmost tip of the world, rewilding is emerging as a continental roadmap to curb the accelerated loss of biodiversity, that which, as Douglas Tompkins warned, constitutes "the mother of all crises".

Bibliography

Araya, M. B., & Duffy, D. C. (1987). Animal introductions to Isla Chañaral, Chile their history and effect on seabirds. *Cormorant, 15*, 3-6.

Baldi, R.B., Novaro, A., Funes, M., Walker, S., Ferrando, P., Failla, M. & Carmanchahi, P. (2010) Guanaco management in Patagonian rangelands: a conservation opportunity on the brink of collapse. En: *Wild Rangelands* (eds du Toit, J.T., Kock, R. & Deutsch, J.C.), pp. 266–290.

BirdLife International. (2018). *Rhea pennata*. The IUCN Red List of Threatened Species 2018: e.T22728199A132179491.

BirdLife International. (2020). *Vultur gryphus*. The IUCN Red List of Threatened Species 2020: e.T22697641A181325230.

Blanco, D., Zalba, S., Belenguer, J., Pugnali, G., & Rodríguez, H. (2003). Status and conservation of the Ruddy headed Goose *Chloephaga rubidiceps Sclater* (Aves, Anatidae) in its wintering ground (Province of Buenos Aires, Argentina). *Revista Chilena de Historia Natural*, *76*, 47–55.

Bioamérica-Pacific Hydro. (2018). Plan de seguimiento del loro tricahue (*Cyanoliseus patagonus bloxami*) en la cuenca del río Cachapoal. Octubre 2006-enero 2018. 87p.

Canevari, P. (1996). The Austral Geese (*Chloephaga spp.*) of southern Argentina and Chile: a review of its current status. *Gibier Faune Sauvage, Game Wildl.*, 13, 335–366.

Carroll, C., & Noss, R. F. (2021). Rewilding in the face of climate change. *Conservation Biology, 35*(1), 155-167.

Carver, S., Convery, I., Hawkins, S., Beyers, R., Eagle, A., Kun, Z., Van Maanen, E., Cao, Y., Fisher, M., Edwards, S. R., Nelson, C., Gann, G. D., Shurter, S., Aguilar, K., Andrade, A., Ripple, W. J., Davis, J., Sinclair, A., Bekoff, M., … Soulé, M. (2021). Guiding principles for rewilding. *Conservation Biology*, *35*, 1882–1893.

Clover, C. (2022). Rewilding the sea: How to save our oceans. London, UK: Witness Books,

CONAF. (1989). La Protección del Patrimonio Ecológico. Corporación Nacional Forestal Santiago, Chile.

CONAF. (1993). Libro Rojo de los Vertebrados Terrestres de Chile. (A. Glade, Ed.). Corporación Nacional Forestal Santiago, Chile. Segunda Edición. 65p.

Del Hoyo, J., Elliott, A., & Sargatal, J. (1994). Handbook of the birds of the world. New World vultures to guineafowl (Vol. 2). Lynx Edicions.

Diaz, N. I., & Smith-Flueck, J. A. M. (2000). El huemul patagónico: un misterioso cérvido al borde de la extinción. L.O.L.A. (Literature of Latin America), Buenos Aires.

Donlan, C. J., Berger, J., Bock, C. E., Bock, J. H., Burney, D. A., Estes, J. A., … Greene, H. W. (2006). Pleistocene rewilding: An optimistic agenda for twenty-first century conservation. *The American Naturalist*, 168, 660–681. **https://doi.org/10.2307/3873461**

Elbroch, M., & Wittmer, H. (2012a). Table scraps: Inter-trophic food provisioning by pumas. *Biology Letters, 8*(5), 776-779.

Elbroch, M., & Wittmer, H. (2012b). Puma spatial ecology in open habitats with aggregate prey. *Mammalian Biology*, *77*(5), 377-384.

Espinoza, I. (2020). Como se armó el Parque Pumalín. En: Butler, T. (Ed.), *Parque Nacional Pumalin Douglas Tompkins*. Tompkins Conservation, San Francisco, California, EE.UU. 43-45p.

Estades C. y González-Gómez, P. (2024). Conservación de picaflores en Chile, el caso del picaflor de Arica, una especie en peligro de extinción. 93-95 p. En: *Picaflores de Chile*. Ed. Fagus del Sur y Island Conservation.

Estrada-Pacheco, R., Jácome, N. L., Astore, V., Borghi, C. E., & Piña, C. I. (2020). Pesticides: The most threat to the conservation of the Andean condor *(Vultur gryphus). Biological Conservation*, *242*, 108418.

Flueck, W. T., Smith-Flueck, J. A. M., Escobar, M. E., Zuliani, M., Fuchs, B., Geist, V., Heffelfinger, J. R., Black-Decima, P., Gizejewski, Z., Vidal, F., Barrio, J., Molinuevo, S. M., Monjeau, A. J., Hoby, S., & Jiménez, J. E. (2022). Loss of Migratory Traditions Makes the Endangered Patagonian Huemul Deer a Year-Round Refugee in Its Summer Habitat. *Conservation*, 2(2), 322-348. **https://doi.org/10.3390/conservation2020023**

Foreman, D. (2004). Rewilding North America: A Vision for Conservation in the 21st Century. Washington D.C.: Island Press

Gibbard, P. L., Bauer, A. M., Edgeworth, M., Ruddiman, W. F., Gill, J. L., Merritts, D. J., & Ellis, E. C. (2022). A practical solution: the Anthropocene is a geological event, not a formal epoch. *Episodes Journal of International Geoscience, 45*(4), 349-357.

Glade, A. (1985). Proyecto de conservación y manejo del Loro Tricahue. Informe temporada 1984 – 1985. Documento de trabajo nº 55. Chile, Conaf. 22p.

Head, M. J., et al. (2023). The Anthropocene is a prospective epoch/series, not a geological event. *International Union of Geological Sciences, 46*, 229–238. **https://doi.org/10.18814/epiiugs/2022/022025**

Herrera, P., Saucedo, C., & Fierro, S. (2017). Livestock Guardian Dogs: An Old-World tool used for conservation in Chilean Patagonia. *Carnivore Damage Prevention News*, 1-9.

Herrera, P., & Saucedo, C. (2019). Perros Protectores de Rebaños: una herramienta del Viejo Mundo para la conservación en la Patagonia chilena. *Biodiversidata, 8*, 48 – 58.

IPCC. (2023). Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 35-115. **https://doi.org/10.59327/IPCC/AR6-9789291691647**

Jiménez, J. E. (2013). Southern pudu *Pudu puda* (Molina 1782). In: Barbanti, J. M., & González, S. (Eds.), *Neotropical Cervidology: biology and medicine of latin american deer* (pp. 140–150). Jaboticabal: Funep and IUCN.

Jiménez, J., & Ramilo, E. (2013). *Pudu puda*. In: IUCN. IUCN Red List of Threatened Species. Retrieved from **www.iucnredlist.org** (Accessed 25 Sept 2014).

Krausman, P. R., & Cain III, J. W. (Eds.). (2022). *Wildlife management and conservation: contemporary principles and practices.* John Hopkins University Press, Baltimore, Maryland.

Kopuchian, C., Campagna, L., Di Giacomo, A. S., Wilson, R. E., Bulgarella, M., Petracci, P. & McCracken, K. G. (2016). Demographic history inferred from genome-wide data reveals two lineages of sheldgeese endemic to a glacial refugium in the southern Atlantic. *Journal of Biogeography*, 43(10), 1979-1989.

Leopold, A. (1933). Game Management. New York, C. Scribner's Sons.

Lobos, G., Rebolledo, N., Charrier, A., & Rojas, O. (2016). Natural history notes of *Telmatobius dankoi* (Anura, Telmatobiidae), a critically endangered species from northern Chile. Retrieved from **https://repositorio.uchile.cl/handle/2250/142360**

Matus, R. (2018). Canquén Colorado (*Chloephaga rubidiceps*). En: Medrano F., Barros, R., Norambuena, H. V., Matus, R., & Schmitt, F. (Eds.), *Atlas de las Aves Nidificantes de Chile*. Red de Observadores de Aves y Vida Silvestre de Chile, Santiago, Chile.

Matus, R., & Blank, O. (2019). Propuesta Plan de Recuperación, Conservación y Gestión del Canquén colorado (*Chloephaga rubidiceps*). Documento técnico para el Ministerio de Medio Ambiente. 49 pp.

Myers, N. (1996). The biodiversity crisis and the future of evolution. *Environmentalist, 16*, 37–47. **https://doi.org/10.1007/BF01325613**

Pavez, E. F., & Estades, C. F. (2016). Causes of admission to a rehabilitation center for Andean Condors (*Vultur gryphus*) in Chile. *Journal of Raptor Research, 50*, 23–32.

Pavez, E., & Saucedo, C. (2017). Rehabilitación de aves rapaces y efecto social para la conservación: el caso del cóndor andino. En: Unión de Ornitólogos de Chile AvesChile (Eds.), *Libro de Resúmenes XII Congreso Chileno de Ornitología*. Santa Cruz, Región de O´Higgins, Chile. 44p.

Pavez, E. F., Izquierdo, F., & Rottmann, J. (2021). Conservation of the Andean Condor in Chile: ex-situ and in-situ actions. En: Soorae, P. S. (Ed.), *Global Reintroduction Perspectives*. IUCN/SSC Reintroduction Specialist Group (RSG).

Perino, A., Pereira, H. M., Navarro, L. M., Fernández, N., Bullock, J. M., Ceausu, S., Cortés-Avizanda, A., van Klink, R., Kuemmerle, T., Lomba, Â., Pe'er, G., Plieninger, T., Benayas, J. M. R., Sandom, C. J., Svenning, J.-C., & Wheeler, H. C. (2019). Rewilding complex ecosystems. *Science, 364*, eaav5570. **https://doi.org/10.1126/science.aav5570**

Pettorelli, N., Barlow, J., Stephens, P. A., Durant, S. M., Connor, B., Schulte to Bühne, H., & du Toit, J. T. (2018). Making rewilding fit for policy. *Journal of Applied Ecology, 55*(3), 1114-1125.

Povilitis, A. (2002). El estado actual del huemul (*Hippocamelus bisulcus*) en Chile central. *Gayana* (Concepción), 66(1), 59 – 68.

Prior, J., & Brady, E. (2017). Environmental Aesthetics and Rewilding. *Environmental Values*, 26(1), 31–51. **http://www.jstor.org/stable/44132332**

Promis, A. (2020). Comunicación personal. Profesor Asociado, Departamento de Silvicultura y Conservación de la Naturaleza. Facultad de Ciencias Forestales y de la Conservación de la Naturaleza, Universidad de Chile.

Ricci, M., Aguilar, A., Carrasco, J., Donoso, M., Durán, H., Núñez, C., Salvo, J., Vergara, J., & Torres-Mura, J. C. (2018). La colonia de Tricahues (*Cyanoliseus patagonus bloxami*, Aves: Psittaciformes) del Alto Cachapoal: variaciones poblacionales entre 1985 y 2015. *Ornitología Neotropical, 29*, 159-165.

Saucedo, C. (2016). Una década de conservación del huemul. *Boletín Vida Silvestre, 1*. Conservación Patagónica. Agosto 2016. 36p.

Saucedo, C. (2019). Historia de los esfuerzos de conservación y monitoreo del Huemul (*Hippocamelus bisulcus*) en el Parque Patagonia, Aysén. *Biodiversidata, 8*, 30 – 47p.

Saucedo. C. (2022). La Vida Silvestre del Parque Nacional Patagonia. En: *Macorra. X. (Ed.), Parque Nacional Patagonia*. Tompkins Conservation/ Rewilding Chile. 163-183p.

Saucedo, C., Saavedra, P., Herrera, P., & Cayún, M. (2019a). Acciones para la conservación y recuperación del ñandú (*Rhea pennata*) en el Parque Patagonia. *Biodiversidata, 8*, 115 - 123.

Saucedo, C., Saavedra, A., & Herrera, P. (2019b). News from the Darwin's Rhea (*Rhea pennata*) Recovery and Conservation Program in Patagonia National Park, Chile. En: Ratite Review of the AZA Struthioniformes Taxon Advisory Group Newsletter: 36-39p.

Saucedo, C., Vidal, F., & Corti, P. (2005). Centro de reproducción de Huemul del Sur (*Hippocamelus bisulcus*) con fines de reintroducción en el Predio Huilo-Huilo. Fundación Huilo-Huilo. Proyecto Técnico. 1-102 pp.

Schmitz, O. J., Sylvén, M., Atwood, T. B., Bakker, E. S., Berzaghi, F., Brodie, J. F., ... & Ylänne, H. (2023). Trophic rewilding can expand natural climate solutions. *Nature Climate Change, 13*(4), 324-333.

Shehvaar, D. E., Idris, W., & Ahmed, M. (2020). Climate Change and the Surge for Pandemics. *Journal of Sustainable Development, 13*(3).

Smith, D. W., Peterson, R. O., & Houston, D. B. (2003). Yellowstone after wolves. BioScience, 53(4), 330-340.

Soorae, P. S. (2021). Global conservation translocation perspectives: 2021. Case studies from around the globe. Gland, Switzerland: IUCN SSC Conservation Translocation Specialist Group, Environment Agency - Abu Dhabi and Calgary Zoo, Canada. xiv + 353pp. 7th Edition.

Soulé, M. E. (1985). What is conservation biology?. *BioScience*, 35(11), 727-734.

Soulé, M. E., & Noss, R. (1998). Rewilding and biodiversity: Complementary goals for continental conservation. *Wild Earth*, 8(3), 18–28.

Soulé, M. E., & Terborgh, J. (Eds.). (1999). Continental Conservation. Island, Washington, DC.

Suarez, J. (2019). La experiencia de restauración de bosques en el Parque Nacional Pumalín Douglas Tompkins, Provincia de Palena, Región de Los Lagos. *Biodiversidata, 8*, 20-29.

Svenning, J.-C., Pedersen, P. B. M., Donlan, C. J., Ejrnaes, R., Faurby, S., Galetti, M., Vera, F. W. M. (2016). Science for a wilder Anthropocene: Synthesis and future directions for trophic rewilding research. *Proceedings of the National Academy of Sciences of the United States of America, 113*, 898–906. **https://doi.org/10.1073/pnas.1502556112**

Turnbull, J. (2016). Rewilding the ocean. *Nature New South Wales, 60*(1), 31.

United Nations Statistics Division (UNSD). (2020). *SDG Indicator 15.3.1: Proportion of land that is degraded over total land area (2000–2015)*. Recuperado de https://unstats.un.org/sdgs/report/2020/goal-15/

United Nations Development Programme (UNDP). (2023). *Forests and biodiversity: Global trends 1990–2015*. Recuperado de https://hdr.undp.org/system/files/documents/forest_biodiversity_report_2023.pdf

U.S. Fish & Wildlife Service. (2025). California Condor Recovery Program: 2024 Annual Population Status. Hopper Mountain National Wildlife Refuge Complex, Ventura, California.

Vidal, F. (2010). *El Huemul un futuro posible*. Fundación Huilo – Huilo. Ed. Servicio Agricola y Ganadero.

Vidal F., Smith-Flueck J. A. M., Flueck, W., Arias, E. (2011) Patagonian huemul deer (*Hippocamelus bisulcus*) under captive conditions: an historical overview. *Animal Production Science* 51, 340-350.

Vila, A. R., López, R., Pastore, H., Faúndez, R., & Serret, A. (2006). Current distribution and conservation of the huemul (*Hippocamelus bisulcus*) in Argentina and Chile. *Mastozoología Neotropical*, 13, 263-269.

Vila, A., Saucedo, C., Aldridge, D., Ramilo, E., & Corti, P. (2010). South Andean Huemul Hippocamelus bisulcus (Molina 1782). En: Neotropical cervidology. Cap. 10: 89-100.

Villavicencio, N. A. (2016). Late Quaternary Megafaunal Extinctions in South America: Chronology, environmental changes and human impacts at regional scales (Doctoral dissertation, UC Berkeley).

Villavicencio, N. A. (2023). El Retrato del Tiempo, Un Viaje al Pasado para Entender el Futuro. La Pollera Ediciones.

Vynne, C., Gosling, J., Maney, C., Dinerstein, E., Lee, A. T. L., Burgess, N. D., Fernández, N., Fernando, S., Jhala, H., Jhala, Y., Noss, R. F., Proctor, M. F., Schipper, J., González-Maya, J. F., Joshi, A. R., Olson, D., Ripple, W. J., & Svenning, J.-C. (2022). An ecoregion-based approach to restoring the world's intact large mammal assemblages. *Ecography*. **https://doi.org/10.1111/ecog.06098**

Ward, K. (2019) For Wilderness or Wildness? Decolonising Rewilding, in *Rewilding*, eds. Nathalie Pettorelli, Sarah M. Durant, and Johan T. du Toit. Cambridge: Cambridge University Press.

Weber, M., & González, S. (2003). Latin American deer diversity and conservation: a review of status and distribution. *Ecoscience*, 10, 443–454.

WILD11, Resolutions Committee. (2020) Global Charter for Rewilding the Earth, 11th World Wilderness Congress. **www.wild11.org/charter**

WILD 12, Resolutions Committee. (2016) THE HÉ SAPA RESOLUTION. Resolution 1: On Sovereignty and Wilderness: Deepening the Wilderness Concept Through Indigenous Knowledge and Wisdom. *The World Wilderness Congress XII*, Black Hills, South Dakota.

WWF. (2024) Living Planet Report 2024 – A System in Peril. WWF, Gland, Switzerland.

TEXTS:
Ingrid Espinoza León
Cristián Saucedo Gálvez
Eduardo Pavez Gálvez
Álvaro Promis Baeza
Eduardo Núñez Araya
Lorena Valenzuela Lobos
Úrsula Partarrieu Rojas
José Suarez Bolaños

EDITION:
Guillermo Sapaj Aguilera
Pía Moya Lorenzini

DESIGN:
Nathalia Pugliese

Rewilding in Chile: Experiences and projections.
Puerto Varas, Chile (2025) Fundación Rewilding Chile

REWILDING CHILE

The Legacy of Tompkins Conservation

Omar Rebolledo