



# PULSO AMBIENTAL

POLITICAL AND DEBATE MAGAZINE

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## Who defends the environment in Argentina?

From the Puna in Jujuy to the San Matías Gulf, from the Precordillera in Mendoza to the coast of Mar del Plata, these are nine stories about individuals, organizations, and communities dedicated to protecting and preserving the environment in Argentina.



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# Content

04

Editorial. Pulling the Levers to Protect Environmental Defenders  
By **FARN**

06

Salinas Grandes, the Puna that Resists the Arrival of Lithium Mining  
By **Emilia Delfino**

10

The Matanza-Riachuelo River Recovery: Visible Improvements and Hidden Hazards  
By **Jesús Allende**

14

Memoir of a glacier explorer  
By **Facundo García**

18

"We're Drying Out": A Twon in San Juan's Struggles for Water  
By **Agustina López**

22

The Oil Activities that Forever Changed Life at a Mapuche Community  
By **Emiliano Ortiz**

26

Defending the environment: A Democratic Exercise that Takes Time and Involves a Learning Process  
By **Vanina Lombardi**

29

Oil Project Puts San Matías Gulf at Risk 25 Years After Landmark Protection Act  
By **Iván Hojman**

32

Under The Flag of Native Flora  
By **Jorgelina Hiba**

36

Recycle, Resist, Revolutionize: The Cartonero Movement in Rosario  
By **Juan Chiummiento**

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EDITORIAL FARN

# Pulling the Levers to Protect Environmental Defenders

04

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Image credit: Celina Mutti Lovera.

**T**o defend our planet's natural resources—soil, water, biodiversity, forests, glaciers, wetlands, rivers, oceans, peatlands, aquifers, mountains, landscapes, and cultural and natural values—we must safeguard the rights of the people who work tirelessly for environmental and social justice. Protecting their rights to life, health, and safety is essential for the full exercise of environmental rights.

The **United Nations' Declaration on Human Rights Defenders**—short for the Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedom—, adopted in 1999, defines human rights defenders as individuals or groups who peacefully promote, protect, and fight for human rights and fundamental freedoms.

We embrace as broad a definition of “environmental defender” as possible. As such, it includes indigenous communities, environmental activists, scientists, firefighters, park rangers, tourist guides, citizen assemblies, neighbors, urban recyclers, lawyers, NGO members, journalists, sportspersons, artists, teachers, and many others. We need a flexible definition that allows us to expand the protection threshold as much as possible.

**Latin America is among the most dangerous regions for environmental defenders.** In Argentina, the 2023 **constitutional reform in Jujuy province** violated indigenous people's rights to information access, civic engagement, free, prior, and informed consent, and access to justice. The reform also failed to ensure adequate protection for environmental defenders, as stipulated

in the Escazú Agreement. **Public demonstrations by indigenous communities, social and political movements, and environmental activists** were met with police repression, resulting in arrests and injuries.

In a context of setbacks in economic, social, cultural, and environmental rights, the work of environmental defenders is crucial. We must do everything in our reach to guarantee their rights, pulling all the levers to protect them. While groups and assemblies often serve as the first line of defense, individual defenders are often exposed to significant risks. It's essential to learn their stories, not only for inspiration but also to shield them from government or corporate attacks.

Throughout Argentina, from Salinas Grandes in the North of the country, to the San Matías Gulf in Patagonia, running through Jáchal in the Andes, to the Matanza-Riachuelo River that runs from Buenos Aires to the River Plate, we find inspiring stories of people and communities who are dedicated to environmental human rights defense. The Escazú Agreement mandates that governments guarantee a safe environment free from threats, intimidation, danger, and restrictions on freedom of speech or assembly. To ensure the effectiveness of this agreement, to avoid it being just wishful thinking, its full implementation is essential. The protection of people's lives and countless ecosystems depends on it.

We cannot protect whom we don't know. To safeguard the individuals and communities fighting for human rights, the environment, the climate, and the biosphere, we invite you to learn about their stories in this edition of *Pulso Ambiental*.

**Emilia Delfino**

Research journalist, specialized in government and corporate corruption and socio-environmental conflicts. Experienced in covering legal cases, she currently writes for the Politics section of *elDiarioAR*. Her past work includes roles at *CNN en Español* and *Diario Perfil*. She is a 2023 student of the Oxford Climate Journalism Network and a member of the International Consortium of Investigative Journalists.

# Salinas Grandes, the Puna that Resists the Arrival of Lithium Mining

06

In the territory surrounding the Salinas Grandes salt flat, shared by the provinces of Salta and Jujuy, a group of communities has successfully halted most of the advance of mining companies seeking to extract lithium. For the past 14 years, their opposition to lithium exploitation has come to unite the Kolla people and demonstrated their commitment to defending their environment.

**F**or the environmental defenders and communities in the Puna in Jujuy, Salinas Grandes and its basin represent much more than just a geographical feature. It boils down to just a few words: mother, water, work, prosperity, sacred place, history, salt, heritage, life, and admiration.

This salt flat, which is considered one of the Seven Natural Wonders of Argentina, a battle field. Since 2010, 38 Indigenous communities have expressed their opposition to the lithium exploitation in this endorheic basin, which is shared by the provinces of Jujuy and Salta. Despite the lawsuits, the intervention of the National Supreme Court of Justice, and the complaints to the governorates and to the Inter-American Commission on Human Rights (IACHR), the projects continue. The inhabitants of this territory, an oasis in the desert, have

witnessed the way that lithium mining has pierced its way through in the last few months, obtaining the agreement of at least three communities from that original group that opposed the exploration and exploitation of the mineral that is considered “white gold.”

Fear pervades Jujuy. It was hard to find people that were willing to speak up about the conflict around the salt flats and lithium in February 2024, after Marcelo Nahuel Morandini and Humberto Roque Villegas were arrested and accused of “minor psychological injuries in the context of gender-based violence” and of “turning the identity of a 10-year-old minor uncertain,” after they tweeted about the wife of former Governor Gerardo Morales<sup>1</sup>.

1. This article was written following a trip to the Puna region, in the province of Jujuy, Argentina, from February 23 to 25, 2024.





"We reject the tenders for the 11,000 hectares of lithium at the Salinas Grandes Basin and the Laguna Guayatayoc. Respect Article 75, Section 17 of the National Constitution and the ILO Convention 169." In Salinas Grandes, 38 communities oppose the lithium exploitation.

Clemente Flores is one of the few environmental defenders from this territory who has agreed to be named in this article. He is a historic leader in the community of El Moreno, part of the Salinas Grandes and Laguna de Guayatayoc basin, located in the Tumbaya department at an altitude of 3,600 meters above sea level, near the highest peak in Jujuy, Mount Chañi.

Flores is convinced that the lithium conflict has done more than unite all 38 communities; it has helped them recover their identity. "If this concern hadn't come up, each community would have gone their own way," he says. "It helped us wake up."

The spokesman also states that the communities are not willing to turn their territory into a sacrifice zone so that the Global North can meet their targets of reducing carbon dioxide emissions. "We won't destroy all the nature at the Puna to 'save the world' with electric cars", he says. To Flores, the salt flats are a source of life and heritage, not of lithium for car batteries for rich countries.

## People thriving under a community-based economy

Salinas Grandes is more than a salt flat. It's an endorheic basin, a closed basin, that is not only about lithium but also water, salt, and employment. But not the kind of employment imposed by mines and governments. A community-based economy operates here; it's a different form of organization implemented by some indigenous communities. Santuario de Tres Pozos is one such community, located 145 kilometers from San Salvador de Jujuy.

Tourism at Salinas Grandes is organized by sectors, with different communities managing various portions of the salt flat. They work in shifts, typically every other day, and train young people as guides. Profits are divided for wages and community income. One of the 40 guides from Santuario de Tres Pozos, who welcomes tourists at the edge of the salt flat amidst signs against lithium extraction, prefers to remain anonymous for this article.

His mother has had a stall at the salt flats for around three years now, where she sells salt handicrafts. She says that her children must “occupy the territory,” in the broadest sense: they must go back to the roots of the community, to grazing llamas and goats, to agriculture. She believes they must live in the land that the mining companies covet so much; the land that most communities have refused to give up so far. To her, the salt flats are a source of employment. She asks to remain anonymous too.

Another tourist guide and former indigenous leader from the San Miguel de Colorados community also requests anonymity. She has fought for years against the arrival of the mining companies to the salt flats and the extraction of lithium. To her, the salt flats are sacred; a gift from a heavenly Father. She believes that the Salinas Grandes communities must remain united and organized in order to keep halting the silent advance of lithium mining. José Luis, one of her colleagues, agrees stating: “Lithium feeds us today, but starves us tomorrow.”

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**Since 2010, 38 indigenous communities have expressed their opposition to the lithium exploitation in this endorheic basin, Salinas Grandes, which is shared by the provinces of Jujuy and Salta.**

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This large salt flat is also a source of employment for a salt cooperative founded by indigenous leaders of Santuario de Tres Pozos. One of the oldest workers has been making a living out of this activity for 30 years. “Salinas Grandes is history; it’s a mother,” he says. Different generations work here, extracting salt for industrial use, and animal and human consumption.

There was little rainfall this past year, which will affect the production of raked salt —used for industries like paper production—, according to a worker who also asked to remain anonymous. The potential use of basin water by mining companies for lithium exploitation threatens their employment, as without water, there would be no raked salt.

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**“We won’t destroy all the nature of the Puna to ‘save the world’ with electric cars,” Clemente Flores says. He’s a historic leader of El Moreno community.**

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The Government of Jujuy has granted concession agreements to mining companies for several areas of Salinas Grandes, and two are already operating there: Litica (owned by Pluspetrol) and Lithion Energy (owned by Pan American Energy). These companies received endorsements from three communities (Lipán, Sausalito y Quera, and Agua Caliente) to begin lithium exploration in their territories. In these three towns within the Salinas Grandes basin, a portion of the population decided to leave the group and make their own agreements with the companies and the Government of Jujuy. Pulso Ambiental contacted the Secretary for Indigenous Peoples, the Secretary of Mining and Hydrocarbons, and the Ministry of Environment of Jujuy to inquire about their position on the conflict with the communities but received no response.





This salt flat, located in the provinces of Jujuy and Salta, is considered one of the Seven Natural Wonders of Argentina.



A community-based economy operates at Salinas Grandes, boosted by tourism, handicrafts, and a salt corporation.

Iber Sarapura, a 24-year-old from the Alfarcito community, a Kolla town located in the Salinas Grandes and Laguna de Guayatayoc basin, sees the basin as a symbol of admiration for the organization the communities have developed over the past 14 years. "It's a place that displayed fight and resistance, that was able to show that these communities can get organized, can fight, can resist," he emphasizes. "We can say 'no' when they try to walk all over us, when they try to infringe our rights, when they want to kill us."

Sarapura concludes, "Lithium is death. The only thing it does is make sure that we don't have water in the future."



### Jesús Allende

Jesús is a criminal law attorney with a degree from the University of Buenos Aires. He also holds a Master's in Journalism from the Torcuato Di Tella University. Currently, he covers the Society section for *La Nación*. His work has earned accolades from the Association of Argentine Journalist Entities, including the "Social Solidarity" award in 2022 and the "Legal Journalism" award in 2023, the latter was awarded by the Supreme Court of Justice of the Argentine Nation.

# The Matanza-Riachuelo River Recovery: Visible Improvements and Hidden Hazards

10

Despite noticeable improvements, water and air contamination affecting 4.5 million residents persists. The 2008 Mendoza court judgment, which ruled against the government for environmental damage, has not yet resulted in substantial recovery. Experts emphasize that restoring the Matanza-Riachuelo River Basin requires a comprehensive approach, interjurisdictional cooperation, and stricter control over the companies and entities responsible for its pollution.

**T**he weather is ideal for navigating the Matanza-Riachuelo River. After two weeks of rain, a calm has settled. The sun shines, and the sky has cleared, allowing the boat to traverse between the Río de la Plata's mouth and the Bosch Bridge. A gentle breeze disperses the surface odor, making it nearly imperceptible, while the water's reflection is clear. The river's water level, elevated from the recent rains, provides sufficient draft for smooth navigation. This river forms a natural barrier between the city of Buenos Aires, Argentina's capital, and the province of Buenos Aires which surrounds it.

The river also borders Caminito, which is a must for any tourist in the city, Isla Maciel, and flows under the Nicolás Avellaneda transporter bridge. It then runs beneath the Barraca Peña railway bridge, where the scenery becomes industrial, a blend of historic neighborhoods from both

the province and the city, informal settlements, active and abandoned factories, bunkers, and warehouses. Plastic debris collects in "floating pots," functioning as makeshift trash cans, while power shovels along the river's edge gather waste into metal containers. In the water, cleaning catamarans diligently collect surface waste carried by the current.

Sixteen years ago, such scenes in the lower section of the Matanza-Riachuelo River Basin would have been unimaginable. The waters near the river's mouth were choked with scrapped cars and sunken ship hulls, which, alongside waste accumulation, created underwater dumps emitting a putrid, unbreathable stench.

While the visual landscape has certainly improved, this section — navigable only with authorization — is just a





The Matanza-Riachuelo River Basin cuts through 14 municipalities in Buenos Aires Province and nine neighborhoods in the Argentine capital city.

small part of the 64-kilometer-long basin. Hundreds of streams branch off, surrounded by dense populations. The challenge of cleaning one of Argentina's largest pollution sources remains substantial.

Around 4.5 million people live in this area, meaning one in ten Argentinians resides where water and air quality are unsuitable for habitation. The issue is still far from being resolved, but progress has been made, largely due to the efforts of environmental defenders who have dedicated years to protecting and cleaning the basin. They have also succeeded in raising awareness of the ecosystem's value.

One such defender, Alfredo Alberti, is aboard the boat. As the president of the La Boca Neighborhood Association, Alberti comments, "We've seen a significant change in the Matanza-Riachuelo." Upon reaching a worker from the Matanza-Riachuelo Basin Authority (ACUMAR), responsible for cleaning, he adds, "We've been advocating for the Basin for 25 years. Back then, you couldn't navigate more than 50 meters without stopping because the motor would overheat from trash clogging the propeller. Today, we've overcome visual pollution and that putrid

smell, but that's just the aesthetics. The real issue lies beneath the surface."

### Mendoza Court Judgment: Before and After

Alberti played a key role in the 2008 Mendoza court judgment by the National Supreme Court of Justice, which ruled against the National, Provincial, and City Governments for environmental damage. The court mandated the restoration of the area and tasked ACUMAR with the cleanup. The La Boca Neighborhood Association, FARN, the Center for Legal and Social Studies (CELS), and the Citizen Association for Human Rights (ACDH) were appointed as the Collegiate Body to monitor and audit progress.

Regarding compliance with the court judgment, Alberti remarks, "Water and air quality remain the same or have worsened. There has been no progress in the parameters because factories continue to discharge chemicals into the water. Sewage waste accounts for 80% of the pollution, while industrial waste contributes 20%, leading to disease and death."





Despite its progress, the Matanza-Riachuelo River Basin is still one of the largest sources of pollution in Argentina.

Raúl Estrada Oyuela, president of the Argentine Academy of Environmental Sciences, an environmental expert, and legal representative of the La Boca Neighborhood Association within the Collegiate Body, provides further insight into the progress and setbacks in addressing pollution. “The lower basin of the Matanza-Riachuelo was once filled with sunken boats and debris. This has been removed, trash has been cleared, and part of the tow-path was cleaned by relocating informal settlements. Vegetation has started to grow again along the banks,” Estrada Oyuela says.

He continues, “While the visual improvements are evident, the real problem lies in what remains unseen, beyond first impressions. Water quality in 2024 is worse than in 2008. Surface water pollution has increased, and benzene levels in the air, a cancer-causing toxin, are significantly above acceptable levels.”

Estrada Oyuela believes that the air quality in the Basin is the worst in the country. “There are no established limits for industrial emissions, and penalties for non-compliance are minimal. For companies, paying fines is often cheaper than addressing the pollution.”

### Facing Housing Challenges

The primary challenge in cleaning the Matanza-Riachuelo lies in the unique issues of each Basin section (low, middle, and upper). The area encompasses 14 municipalities and nine neighborhoods, with over 600 informal settlements that are overcrowded and poorly serviced.

Carla Fainstein, a researcher at the National Scientific and Technical Research Council (CONICET) and expert in housing policies, who has studied social conflicts in the

Basin, including the relocation of settlements like Villa 21 and Villa 24, emphasizes the need for a comprehensive understanding of the Basin that leaves no section unattended. "Pollution in one section affects others. Cleaning efforts must be integrated with housing policies," Fainstein asserts.

"The upper Basin, made up mostly of rural areas is where urban expansion rate is the greatest; and it's not just informal settlements, but also private urbanizations and real estate development, with environmental impacts. Agrottoxins from rural activities also pose problems. The middle Basin features mixed urban and rural areas, while the lower Basin contains densely populated settlements near highly polluting factories," she explains.

Fainstein advocates for a redesign of the Integral Environmental Sanitation Plan (PISA), ACUMAR's action roadmap, to address specific problems in each section. She also acknowledges the valuable information ACUMAR has gathered since the court judgment, which has revealed previously unknown aspects of health and environmental risks.

"Effective interjurisdictional cooperation is crucial. Communication issues among municipalities, due to diverse local governments, must be addressed. Control mechanisms and inspections of polluting agents need improvement, and efforts must ensure that industries comply with government regulations and court judgments to enhance living conditions in the Basin," Fainstein concludes.

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The challenge of cleaning one of Argentina's largest pollution sources remains substantial.

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"There are no established limits for industrial emissions, and penalties for non-compliance are minimal. For companies, paying fines is often cheaper than addressing the pollution," Estrada Oyuela points out.

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## The Current Fight

As the boat reaches the Bosch Bridge, it must stop due to rising waters. As it turns back towards La Boca, Alberti reflects on the past 25 years of advocacy. "The fight hasn't been in vain, and we're proud to be part of the Collegiate Body, working with other esteemed institutions," he says.

Once near the shore, Alberti disembarks using the gangway to Vuelta de Rocha, Caminito. Close by, a shoal of silver fish surfaces next to the "floating pot." While this sight might suggest ecosystem recovery, Alberti warns that it's misleading. "These fish entered from the River Plate due to the storm; now they're trapped. There is no oxygen in the water here, they will die within hours. The Matanza-Riachuelo's is still sick. What has been done is insufficient and that's what must keep us fighting. The lower Basin looks vibrant on the outside, but it is rotting within."

**Facundo García**

Journalist. In 2014, he embarked on a land journey across Africa. The experience inspired his book, *Preguntas de los elefantes*, published by the National University of Cuyo. Previously, he released *Era esto o poner bombas*, a collection of his writings from 2005 to 2020.

# Memoir of a Glacier Explorer



Geographer Laura Zalazar participated in nearly 40 expeditions to complete the Argentine National Glacier Inventory. With her unique field experience, she emphasizes the urgency of discussing water conservation and distribution. This article explores her fight to protect this strategic resource.

Image credit: Laura Zalazar.



**L**aura Zalazar's voice echoes the rugged mountains she's studied for decades. There is tenacity and strength in it which might be explained by the fact that, at 55, she is the coordinator of the National Glacier Inventory and has a decade-long journey through the Argentine Andes to safeguard dwindling resources. These landscapes are an integral part of her identity.

Zalazar's concern is palpable. As of May 2024, the future of the inventory became uncertain due to potential funding cuts. Her work, a drifting iceberg, vulnerable to the whims of public policy.

Born in a rural settlement in Guaymallén, Mendoza, Zalazar's childhood was shaped by her mother's sewing machine. Public education enabled her to become a scientist. Through a scholarship, she specialized in satellite cartography, studying in England, the Netherlands, and Sweden.

This unusual path aligned perfectly with her life's work: studying the majestic, yet melting, glaciers that kept her awake at night.

## A New Atlas: The First of Its Kind

Zalazar participated in over 30 of the 40 expeditions to complete the Argentine [glacier inventory](#). She braved harsh conditions, traversing cold, wild landscapes at high altitudes and in strong winds.

This was an unprecedented endeavor in Argentina. "Prior to the inventory, we had only partial studies," Zalazar explains. "We lacked a consistent methodology to compare findings across different areas."

[The Argentine Glacier Law \(N°26.639\)](#), enacted in 2010, mandated a regular inventory and established a minimum budget. The Argentine Institute of Nivology, Glaciology, and Environmental Sciences (IANIGLA) led the inventory in coordination with the Ministry of the Environment and Sustainable Development.

Between 2012 and 2017, Zalazar and her team crossed frozen rivers on horseback or by foot, engaging with local communities, camping outdoors, and navigating through fog. They created maps using satellite imagery and validated them through field surveys to verify if what was shown in the pictures from space matched what lay on the Earth's surface.

"We discovered a diversity of glaciers, including rock glaciers, which aren't immediately recognizable due to their concealed ice," Zalazar notes. "These expeditions required days of travel and local guides. In the south, we encountered lakes and forests, while in Mendoza or San Juan, glaciers are typically at high altitudes in harsh environments."

Zalazar points out that human settlements near glaciers vary. "In the north, we engage with local communities and seek their permission to approach the glaciers. In Patagonia, we often need to identify landowners and obtain their approval."

The inaugural inventory in 2018 protected 16,968 bodies of ice from pollution, construction projects, mining activities, and industrial settlements. Few could foresee the challenges that would arise.

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"Before the inventory, we didn't have a map that was designed with the same methodology, so we could compare the conclusions of one area with another," Zalazar says.

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## The Social Climate Also Changes

Alongside climate change, other hardships have encountered environmental defenders, namely, increasing harassment. Zalazar's experiences highlight the subtle and overt tactics used to silence those working to protect the environment.

The dismissal of evidence or the undermining of expertise –such as the current government has carried out and endorsed, mainly through social media– can inflict significant damage. Budget cuts are a mechanism capable of such harms.

“Our work is funded by the National Scientific and Technical Research Council (CONICET),” Zalazar explains. “We operate within the country’s general budgetary framework. Unfortunately, there have been attempts to modify the Glacier Law through the “Bus” bill, which aimed to reduce protected areas and specific glaciers.”

President Javier Milei's proposed changes in January would have significantly limited the protected areas, jeopardizing thousands of glaciers. Inactive rock glaciers and formations smaller than one hectare were among those excluded, leaving a great percentage of the thousands of ice bodies scattered along the Argentine Andes at risk.

While these changes were ultimately postponed, the threat remains. The glaciers hinder private business development, and the government's approval for the inventory update, submitted in November 2023, has been delayed for nearly six months. “In order to publish the report, we must follow an administrative procedure and the Government must approve it. We're still waiting for that,” Laura adds.



Laura Zalazar now. The 55 year old scientist lives in Mendoza and works at the Argentine Institute of Nivology, Glaciology, and Environmental Sciences (IANIGLA).

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The first project of the “Bus Bill”, which the new administration sent to Congress as soon as it came to office, intended to stop protecting some glaciers.

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Laura's work includes long trips, sometimes on foot, other times on horseback or on muleback.

## Glaciers, Water, and Beyond

Nowadays, people rarely takes a minute or two to patiently watch snowflakes. Each one is made up of millions of ice crystals with six sides that form a star-like shape, connected by a precise and unique geometric combination.

How can we not be awed by the fact that the crystals, which make up the secret architecture of the flakes, build up over thousands or even millions of years to create these cathedrals of nature we call glaciers? Such a wonder resembles magic.

Yet, in an era of haste, screens, and distractions, glaciers suffer. Zalazar has closely monitored Central Andean glaciers since 1986, observing a 40% decrease in their area. This directly threatens freshwater reserves in this arid region.

Glaciers are just one component of the Andes range. "Mountains are a system," Zalazar emphasizes. "Our law protects glaciers, but we must also consider the wetlands, streams, floodplains, and groundwater, which are even more vulnerable."

Ultimately, the issue is valuing water as a strategic resource. "The hydrological cycle is changing," Zalazar concludes. "Beyond studying water availability, we need to discuss who controls water and how it will be distributed."

Time is running out. The glaciers are melting at an alarming rate. Let us hope this crucial debate is resolved promptly.



**Agustina López**

Environmental journalist. She has worked at *La Nación* and A24, and has been an editor for TN since 2020. She is the author of the book *Darwin, una historia de Malvinas*.

# "We're Drying Out": A Town in San Juan's Struggle for Water



"We say no to the polluting mining industry. Hands Off Jáchal." Saúl Zeballos, a member of the *Jáchal No Se Toca* Assembly.

In 2015 a cyanide spill at the Veladero mine poisoned the Jáchal River in the province of San Juan, Argentina. Ever since, the *Jáchal No Se Toca* Assembly has been fighting to protect their town's water resources. The recent threat of the Josemaria Project, a new mining development, could further deplete these resources.



"Don't kill us. Get out, Barrick." Protests against the first spill at the Veladero mine in 2015. Image credit: *Jáchal No Se Toca* Assembly.

"The Jáchal River will disappear, it will dry out," Carolina Caliva, a member of the *Jáchal No Se Toca* Assembly, says. "We've been feeling for some time that we're a sacrifice zone." It's Friday afternoon. The assembly gathers, as they always do, in the blue tents are set up in the town square.<sup>2</sup>

This group from San Juan was formed to oppose mega-mining pollution and protect the vital water resources of their town of 25,000 people. Back in February 2015 they achieved their initial goal of keeping Latín Uranium, a mining company, out of the La Ciénaga Protected Area in Jáchal.

The assembly gained national attention later that year when the Veladero mine, owned by Barrick Gold, spilled millions of liters of water contaminated with cyanide and mercury into the river which sustains the town. This event was the worst mining catastrophe in Argentina's history. The population found out due to a text message that a worker sent to their family: "Don't drink the water, it's contaminated." There were no official statements by the company at the time.

Mega-mining uses up thousands of liters of waters per second, but the economic benefits for San Juan represents barely 3% of the profits they disclose.

"That night, nobody slept in Jáchal," Carolina recalls. "People were running around desperate. There were scared parents who thought they had poisoned their children." The neighbors demanded an explanation from the Municipality but received no answers. In 2020, a trial meant to make five former officials responsible for the damage was suspended due to the pandemic and hasn't been rescheduled yet.

Despite facing challenges, the Assembly has achieved significant milestones. They've successfully pressured the Jáchal municipality to conduct regular water testing and have uncovered at least 5 other spills by Barrick Gold that were kept hidden by the company. Although this should have led to shutting down the mine —the Argentine Mining Code establishes the definite shut-down in case of three spills—, this never happened.

1. The name of the assembly translates to Hands Off Jáchal and refers to its claim of leaving the Jáchal River untouched by mining activities and corporate interests.

2. This article was written after a trip to Jáchal between March 14th and 16th, 2024.

The members of the Assembly have studied endlessly, they've learned how a mine works, and moreover about their rights. They have succeed in promoting the legal fight and have also inspired other water defense movements across Argentina. The latter is one of their greatest sources of pride.

"We've been living with these difficult prospects for some time," Faustino Esquivel, another member of the assembly, explains. "We want to send a message to other departments and provinces: don't let mining companies in. Once they're in, it's impossible to get them out."

Faustino believes the assembly can protect other areas from the damage that Jáchal has already suffered. He was arrested during a protest at the Jáchal square for carrying a sign that said: "Water is more valuable than gold."

## The Economic Crisis as an Excuse

The mega-mining industry settled in San Juan in the early 2000s, amidst one of the country's most critical economic crisis. It offered well-paid jobs and promises of no harm to water resources; it offered trucks and livestock to the workers, hospitals and schools to the communities. Scraps in exchange for the thousands of liters of water that the mines used up for their activities and for the sheer economic benefits the province receives, which represents barely 3% of the profits the company discloses.

"The government delegates some actions to mining companies to obtain a social license which allows them to carry out an activity that is devastating," Saúl Zeballos, a member of the assembly, says. "It's a social license that they don't truly have: we asked for popular consultations on three different occasions and we were rejected every single time." This ploy is not exclusive to Jáchal, it's common but all over the world.

The Assembly members have faced persecution from the government, which supports mega-mining: some have received threat calls, others were detained, some of their family members struggle to find work. However, they also have strong support from the local community.

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Part of the Josemaría project operations would be carried out in glacial and periglacial areas, which is prohibited by the Argentine Glaciers Act, still in force.

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The impact of mining on this town is undeniable: the Jáchal River barely threads its way between the rounded rocks in the riverbed. Its flow is weak and sluggish. "We used to go rafting here," Saúl recalls. Today, you could cross the river on foot.

The high water demand from mining, combined with reduced snowfall due to climate change, has caused water levels in the Jáchal River to steadily decline. In response, the government has rationed water for agriculture. Initially, they cut the supply for 42 days each year, using the floodgates of the Cuesta del Viento dam on the town's outskirts. Now, the supply is cut off for four months annually. "Mining is a government policy because that's what the world needs right now," Governor Marcelo Orrego said in March at a mining fair in Canada.

"I'm sure the Jáchal River will dry up in eight or ten years, and that'll be the end for us," says one farmer, his voice breaking as tears catch in his throat. "I'm a fourth-generation farmer; I don't know how to do anything else." He declines to give his name out of fear of retribution. He grows onions, quinces, and alfalfa, but its becoming increasingly difficult. "We used to grow more fruits, but we've shifted to alfalfa because the profits weren't the same anymore. There's less water, and it's saltier. Quinces now grow with a yellow ring," he explains.

Around 1,000 farmers in the Jáchal River Valley are at risk. Those who can are already trying to relocate to another province to start anew. Others, resigned to their fate, are looking for work in the mines.



## The Threat of Josemaria

In recent months, the Assembly and the people of Jáchal have faced three significant setbacks. The first came in March when it was confirmed that the Veladero mine would continue operating for at least another ten years.

During the summer, the new national government included an aggressive modification to the Glacier Act in the “Bus Bill”, which would allow mining activities on glaciers and in the periglacial environment, threatening the few remaining sources of fresh water in the province. Although the bill was not approved in the end, the people saw this as a warning and believe the issue will resurface.

The third blow was the launch of Josemaria, a new open-pit mining project by the Canadian company Lundin Mining, aimed at extracting copper. After 20 years of exploration, Josemaria is on the verge of starting construction and extraction. It will be the largest mining project in Argentina and is expected to operate for 19 years. Preliminary data suggests it will use five times more water than Veladero. After its closure, it will leave a tailings dam—a waste dump in the mountains—that will remain there indefinitely.

The only hurdle left before Josemaria begins is the approval of the environmental impact study, which has already been submitted by the company and received over 120 comments. One of the most concerning comments is that part of Josemaria's operations would take place in a glacier and periglacial area, which is prohibited under the still-active Glacier Act. Locals remain in the dark about the outcome of this study, as neither the provincial government nor the company has provided any updates.

It's a daunting situation, but the *Jáchal No Se Toca* Assembly says they have no choice but to continue fighting; they refuse to back down. Their struggle is a testament to the importance of protecting water resources and resisting the destructive power of mega-mining.

Faustino captures the spirit of their struggle as he concludes the conversation. “This land and water are all we have. There's nowhere else. We can't let them break us. We have to defend this at all costs. For us, what's at stake isn't money—it's our dignity. We just want to live in peace.”



“The Glaciers Act needs to be enforced, not changed. Hands Off Jáchal Assembly.”  
 “This is the only place we have. We can't let them break us,” Faustino Esquivel said.  
 Image credit: *Jáchal No Se Toca* Assembly.



Albino Wirkalew, member of a mapuche community.



**Emiliano Ortiz**

B.A. in Social Communication and photojournalist who has worked with various media outlets in Neuquén Province, Argentina, including 8300 Comunicaciones and the *Río Negro* newspaper. He currently works for *Minuto Neuquén*.

# The Oil Activities that Forever Changed Life in a Mapuche Community

23

The *Lof* Wirkalew community in Sauzal Bonito is grappling with the severe impacts of fracking in the Vaca Muerta and Fortín de Piedra oil fields, located along the Neuquén River. The ongoing damage from induced seismicity has led them to demand earthquake-resistant homes, as they face the dilemma of whether to continue their ancestral farming practices or participate in the oil industry.

**S**auzal Bonito is a rural area in the province of Neuquén, approximately 100 kilometers from the capital of Neuquén, 40 kilometers from Añelo, and 43 kilometers from Plaza Huincul via Provincial Route 17. Just before reaching the town, a sign featuring the Mapuche flag colors directs visitors to the *Lof*<sup>1</sup> Wirkalew community.

The path narrows, and a series of intersections lead to a few scattered houses. The broken windows and cracked walls of these homes are among the many signs of damage caused by seismic activity triggered by unconventional oil and gas extraction in Vaca Muerta.

Jovita Wirkalew, the mother of the community's *lonko*, struggles to close the door of her *ruka*, the mapudungún<sup>2</sup> word for a traditional Mapuche home. "I have a problem with the door because of fracking," she says, unable to fully close it<sup>3</sup>.

Aladino Wirkalew, another community member, describes the earthquakes as "cannons thundering underground," using this dramatic analogy to convey their experience since fracking began in 2015. "It has been very difficult for us to endure so much movement," he adds. "When they frack, the explosions are much worse. The houses shake, the land trembles, stones fall and break as if they were in a cutting machine, and the cliffs collapse."

1. The *lof* is a basic form of social organization of the Mapuche people, consisting of a family clan or lineage that recognizes the authority of a *lonko* (chief).

2. Language spoken by the Mapuche people.

3. The interviews in this article were conducted on April 13th, 2024.





Jovita Wirkalew. The community asks that the Tecpetrol company build ten earthquake-resistant homes.

24

Seven kilometers from the community, on the other side of the Neuquén River, lies the Fortín de Piedra field, an unconventional deposit operated by Techint through its Argentine subsidiary, Tecpetrol. Covering 243 square kilometers, Fortín de Piedra supplies 16% of Argentina's gas, with a production rate of 186,500 barrels per day.

"We've experienced around 430 or 435 seismic movements," Aladino reports, aligning with data from the [Induced Seismicity Observatory](#), which has documented over 400 earthquakes in the Vaca Muerta Formation since 2015. Between 2019 and 2023, seismic activity in Fortín de Piedra consistently followed hydrofracturing periods. The most recent earthquake in Sauzal Bonito was recorded in February 2024, with seven earthquakes reported so far this year.

Seismograph records indicate similar patterns: shallow tremors with an average magnitude of three. Although not deep, the community perceives these tremors as powerful blasts or significant shakes. "The houses are all cracked," Wirkalew explains. "When you're inside, the roof sways and the walls move. Several TVs and other items that were hanging or placed on higher furniture have fallen." These tremors often occur late at night but can happen at any time.

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The Wirkalew Mapuche community faces an unequal fight between ancestral tradition and the advance of oil exploration in Sauzal Bonito.

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JUNIO 2024

N° 22

"We lost a cow due to these blasts because of the falling stones," he says, showing a photo of the animal crushed by heavy rocks. The seismic activity has also killed native wildlife, such as the Patagonian mara, an endangered species. "The maras live in underground burrows. When the ground collapsed, their burrows were destroyed, and they died there," Wirkalew adds.

The community is requesting that Tecpetrol build ten earthquake-resistant homes to replace those damaged by fracking, which were originally built by the community's own efforts.

## A Dichotomy Between Livestock Farming and Oil Activity

An engraved stone on a *chenque*<sup>4</sup> marks the presence of Mapuche ancestors since 1838. The indigenous people of this arid land traditionally relied on livestock farming and crops. Goat and sheep husbandry were central to their economy, alongside selling the pelts of native animals and the feathers of Darwin's rheas.

While livestock farming continues, it has become less profitable due to the drought caused by the construction of the Portezuelo Grande dam and Los Barreales lake in 1972. The artificial reservoirs have flooded grazing areas and natural water sources.

Since 1916, when the first well was drilled in Plaza Huincul, the Wirkalew community has lived alongside the oil industry. Alejandro Policarpo, the first *lonko* when the community was officially recognized in 2010, recalls how his ancestors transported materials with a bullock cart from the Challacó station.

"We were raised in the countryside until we realized it was becoming untenable," Policarpo says. "My parents had nine children and worked hard to raise us. As we grew older, we sought better prospects to support our family, which led us to work in the oil industry."

Today, most young people from the community work in the hydrocarbon industry, reflecting a common dilemma in Neuquén province: choosing between the high wages offered by the oil industry and the more challenging life of traditional occupations. "Despite this, our primary complaint is about the destruction caused to our homes," says the community leader.



Sauzal Bonito is a rural area in the province of Neuquén, located at around 100 kilometers from the capital of Neuquén.

## Oil Transit and Loose Animals

The Vaca Muerta boom has brought urban-like noise and constant traffic to the countryside. Cargo trucks, four-wheel drives, and other oil-related vehicles travel along Provincial Route 17.

There are no fences along the road to protect loose animals. "From the lake branch to the Huincul entrance, everything is open," Policarpo notes. Rainwater pools on the roadside, attracting animals who come to drink, leading to frequent traffic accidents in Neuquén province, especially at night. "Less than a kilometer from Huincul, a community member hit a horse at night, damaging their car. Fortunately, they were unharmed," he recalls with concern.

4. Mapudungún word for a Mapuche grave.

**Vanina Lombardi**

Journalist specializing in science, technology, health, environment, and development. She holds a B.A. in Communication Sciences from the University of Buenos Aires and writes for *Agencia TSS* as part of the communications team at the National University of San Martín, Argentina.

# Defending the Environment: A Democratic Exercise that Takes Time and Involves a Learning Process

26

An assembly that gathers local residents is striving to halt oil extraction activities in the North Basin of the Argentine Sea, located 300 kilometers off the coast of Buenos Aires. Despite the lawsuits and legal protections filed over the years, the first explorations began in April 2024.



"A Sea Free of Oil Companies." "Atlanticazo" demonstration on January 4th, 2024.



**D**uring the Argentine summer of 2021, local residents became aware of the rising interest in the North Argentine Basin, located 300 kilometers off the coasts of Mar del Plata and surrounding areas in Buenos Aires Province, for its potential for offshore oil exploration. The news raised concern among the community, leading a group of neighbors to organize swiftly. They called for an open assembly on June 19th of the same year, forming the *Asamblea por un Mar Libre de Petroleras*, an assembly advocating for an sea free of oil companies.

“We gathered at the waterfront for an open assembly, which had a great turnout and various contributions. We chose our name in the rain and then moved the protest to the Municipality,” recalls Fernanda, one of the first participants. She notes that this initial group grew rapidly in the following months after a resolution authorizing Equinor, Shell, and government owned YPF to conduct oil explorations in the Argentine Sea was issued<sup>1</sup>.

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**The assembly grew rapidly in the following months after a resolution authorizing Equinor, Shell, and YPF to conduct oil explorations on this area of the Argentine Sea was issued.**

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In response, the group held a demonstration from Provincial Route 11 to the presidential residence at Chapadmalal on December 31, 2021. Days later, on January 4, 2022, they organized the first *Atlantico*, a protest that would become iconic. “We chose that date to strengthen anti-extractivist actions because Chubut —a pioneer province in Argentina’s environmental defense against mega-mining— also holds protests on the 4th,” says Fernanda. Since then, monthly protests in defense of the sea have been held not only in Mar del Plata but also in various parts of the country. This assembly is part of the Coastal Communities Network, which includes groups, organizations, and community associations from coastal areas threatened by extractive activities

1. Resolution 436/2021, signed on December 30, 2021, which led to various protective actions on behalf of the community and environmental organizations.

with potentially harmful socio-environmental impacts, from Buenos Aires Province to the southernmost point of the country, Ushuaia, in Tierra del Fuego.

The Argentine continental shelf is one of the largest and most biologically significant marine environments in the Southern Hemisphere. Scientists have identified over 400 species of fish, 930 mollusks, 83 marine birds, 47 marine mammals, five species of turtles, and more than 1,000 other species. Additionally, the ocean plays a crucial role in mitigating global climate change by capturing a substantial percentage of carbon dioxide emissions, a key greenhouse gas.

The Argentine Basin is divided into blocks, some of which have been leased to companies for exploration and extraction. One such block is CAN 100, located in the North Argentine Basin, covering an area from Mar del Plata to Bahía Blanca. This block, deemed the most profitable, was awarded to Equinor, Shell, and YPF. It spans 15,000 square kilometers of maritime territory, with depths ranging from 1,000 to 3,000 meters.

## Neighbors Exercising Citizenship

Around the same time the assembly was formed, on April 22, 2021, the Escazú Agreement came into effect in Argentina. This Regional Agreement on Access to Information, Public Participation, and Justice in Environmental Matters in Latin America and the Caribbean, signed by 25 of the 33 countries in the region, including Argentina, promotes these rights at a regional level. It is the world’s first agreement to establish explicit guarantees for the protection of environmental human rights defenders.

However, the agreement’s principles are not always fully honored, and many who seek to protect their territories still feel threatened. The *Asamblea por un Mar Libre de Petroleras* is no exception: on several occasions, they noticed police infiltrators at their protests, recording footage from their cars. “We sensed it and saw it happening, so we created protocols to protect ourselves and deal with such situations,” Fernanda explains.

"According to the Escazú Agreement, the public must be heard, but often their opinions are ignored," says Leandro, an assembly member familiar with the agreement from his participation in other environmental movements. Like many of his colleagues, he acknowledges that legal regulations are limited tools. "The political foundation is to continue working together as a community and showing the authorities that these activities have no social. We need more tools to foster a broader sense of citizenship," says Viviana, an assembly member from Chubut who supports the cause. She adds, "Now more than ever, we need to unite with other assemblies and communities, rally more people for demonstrations, come together, and defend ourselves."

Since its inception, the *Asamblea por un Mar Libre de Petroleras* has voiced opposition to oil activities through various initiatives, including artistic interventions, public information campaigns, and the ongoing *Atlanticazo* protests. They have also filed legal safeguards and appeals that have succeeded in delaying oil exploration.

"We managed to get media coverage, breaking the media siege around fossil fuels, and expose the devastation caused the oil industry in affected territories. This has been one of our greatest political victories, and we see it reflected in surveys and on the streets: in Mar del Plata, 90% of the population is aware of the issue, and of those, 80–90% oppose offshore drilling," says Joche, another assembly member, emphasizing that the city does not grant a social license for this activity, regardless of the protest turnout.

Reaching this point has not been easy, and the fight to protect the territory continues. The group recognizes that sustaining the assembly over time requires significant effort, collaborative work among equals, and active citizen participation. "There is support, but we still struggle to translate that into greater participation. As citizens, we're conditioned not to get involved; that's why assemblies face the challenge of engaging people," says Fernanda, critiquing society's tendency to leave decision-making to others. "It doesn't matter where you're from or what your background is—democracy is an ongoing practice that requires time and a learning process."

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"We managed to get media coverage, breaking the media siege around fossil fuels, and expose the devastation caused the oil industry in affected territories," says Joche, a member of the *Asamblea por un Mar Libre de Petroleras*.

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Alejandro, another assembly member, shares a similar sentiment. He resists the label of "environmental defender" often associated with their movement, believing that everyone is part of the environment and bears responsibility for its protection. "If we speak of 'defenders,' it implies someone else will always take care of the environment, so you don't have to worry. But that's not how it works. Come and participate. There's no divide between the mountains, the land, and the sea—what divides us is the system, first by territory, then by ideas. We're not environmental defenders; this is a space for defense. Join us," he concludes.

**Iván Hojman**

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# Oil Project Puts San Matías Gulf at Risk 25 Years After Landmark Protection Act

In a swift move, and without public consultation, Law 3308—which protected the unique ecosystem of the San Matías Gulf for 25 years—was repealed. Now, plans are underway to build South America's largest oil export terminal on the coast of Río Negro, threatening the area's biodiversity and jeopardizing traditional activities like tourism and fishing.

**N**o environmental achievement lasts forever: the current situation in San Matías Gulf, located between the provinces of Río Negro and Chubut in Argentina, is a stark reminder. For nearly 25 years, these coasts were protected by Law 3308, a legislative victory that came about through mass mobilizations. But that protection was recently stripped away—alarmingly fast—to make way for the construction of the largest oil export terminal in South America. Despite the lack of consultation and the rapid changes, local communities have organized to resist a project that threatens their “lives by the sea.”

The extensive beaches of the gulf, washed by the Atlantic Ocean, are characterized by bright sunshine and the winds of Patagonia. Fishing and tourism are the mainstays of the region's coastal towns. Penguins and whales are celebrated through street art and memorabilia on ev-

ery corner, a reflection of the five marine protected areas nearby: Bahía de San Antonio, Punta Bermeja, Caleta de los Loros, Islote Lobos, and Puerto Lobos. The gulf also borders the Natural Protected Area of Península Valdés, a [UNESCO World Heritage Site](#) since 1999.

The Vaca Muerta Oil Sur project, promoted by YPF and supported by the provincial governments of Neuquén and Río Negro, includes the construction of a 600-kilometer oil pipeline from the Neuquén Basin. The pipeline will cross the city of Sierra Grande in Río Negro, ending at Punta Colorada, where an oil export terminal featuring Single Point Mooring (SPM) systems several kilometers offshore is planned. YPF, Argentina's mostly government-owned oil company, claims this terminal would triple the capacity for hydrocarbon exports, benefiting the foreign companies operating in the Vaca Muerta oil field.



## A Population That Resists

"We are defending our home; this project could destroy everything we know. We're a community that lives with the sea—in our work, our emotions, our entire lives are shaped by the coast," says Fabricio Di Giacomo, a resident of Las Grutas and a member of the San Matías Gulf Multisectorial. This organization was formed in 2022 by citizens from various coastal towns, many with differing political views, united by the goal of protecting the gulf from oil exploitation.

This isn't the first time these coasts have been eyed as an export hub for Argentine oil. In the 1990s, a similar initiative was proposed, but local communities protested, and in 1999, Law 3308 was enacted, prohibiting oil projects in the gulf. This law preserved the gulf as one of the country's few maritime zones free from hydrocarbon pollution. That changed in September 2022, when the Río Negro provincial legislature passed Law 5594, opening the door to oil industry development along these coasts.

"Law 3308 was born from the grassroots, but this repeal was imposed from above," says Mirta Carbajal, a resident of San Antonio Oeste and president of the Inalafquen Foundation, as well as a member of the Multisectorial.

The repeal did not occur without controversy. Local residents and organizations reported harassment, deceit, restrictions on participation, and an unusual celerity in the approval of change so significant. "They didn't allow us to enter the Legislature when the voting took place. The lawmakers just echoed corporate rhetoric; they didn't seem to represent the people, but rather the companies," Di Giacomo explains. He himself was attacked by individuals associated with the construction union, who forced protesters against the law to vacate the square in front of the Río Negro Legislative Palace.

After the law was enacted in August 2023, the Secretary of Environment of Río Negro held a public hearing in Sierra Grande. Almost all the participants who were allowed to speak were in favor of the project, citing the employment opportunities it would bring. Many environmental defenders were not allowed to enter the meeting. The Río Negro government claimed that the environmental impact would be "moderate to low," based on studies conducted by private consulting firms.



Mirta Carbajal.

"The hearing was scheduled with only 30 days' notice, and the environmental impact study was 4,200 pages long. We needed more time to properly review it. There were links to printed pages and information in English; it was clearly a document not meant to be thoroughly read," said Raquel Perrier, a biologist who participated in the 1990s demonstrations and passed on her environmental values to her son, Di Giacomo. "Another issue that discourages civic engagement is that the project impacts Neuquén and Chubut, but only people from Río Negro were allowed to participate," she added.



Raquel Perrier and Fabricio Di Giacomo.

Environmental protections remained in place until September 2022, when the Río Negro Provincial Legislature passed Law 5594, which clears the path for the oil industry along these coasts.

## A Threat to the Environment

Environmental advocates argue that the oil pipeline and terminal go against Argentina's commitments to mitigate the climate crisis. Additionally, they claim the project violates the Escazú Agreement, which Argentina signed in 2020, guaranteeing public participation in environmental decision-making.

Raúl Victorica, a member of the Mapuche community and a resident of Sierra Grande, was one of those denied access to a public hearing on the project. "We will do whatever it takes to defend our land. This is how it's always been, since our ancestors. We must stay connected to nature because it sustains our livelihoods," he says.

The population of San Matías Gulf and the surrounding areas opposes the construction of an oil pipeline and terminal along their coasts, citing a lack of public consultation and incidents of harassment.

"This project will create jobs for a while, but once they've taken what they want, they'll leave," adds Victorica, who worked for 15 years in the Sierra Grande iron mine. That mine closed in 1992, leaving the town nearly deserted and an abandoned terminal just a few kilometers from Punta Colorada, where the new oil export dock is planned.

Locals are particularly concerned about the increased maritime traffic and the risk of oil spills. In late 2023, an oil spill occurred in Bahía Blanca, Buenos Aires Province, when several monobuoys leaked oil over several kilometers. The spill was first reported by a local fisher, as the company's response was delayed.

"Administration after administration, their socio-environmental policies fall short. Civic engagement should be a fundamental right of every community, but people remain disconnected, as the dominant narrative prioritizes economic profits. Our commitment to and awareness of the environment are essential in fighting the policies they are trying to impose here," concludes Di Giacomo.



# Under The Flag of Native Flora

From Bigand, Santa Fe, in the heart of Argentina's agricultural region, César Massi fights for the environment with the same passion and persistence he uses to cultivate native trees.

César Massi in his greenhouse. Image credit: Celina Mutti Lovera.





### Jorgelina Hiba

Journalist specializing in environmental and agricultural issues based in Rosario. She is the editor of *Dos Ambientes – Noticias Verdes* and contributes to local, national, and international media. She is also a columnist for the National University of Rosario radio.

**L**ike the village of Asterix resisting the Roman Empire, the greenhouse of native plants that César Massi has painstakingly built in Bigand, in the south-central part of Santa Fe Province, serves as both a place of resistance and inspiration. In the heart of Argentina's core agricultural region, this former IT specialist—now a native flora expert, “thanks to his dog”—observes, studies, and shares knowledge about local species while engaging in public debates on environmental issues such as wetland protection and urban forestry in the context of the climate crisis.

### Growing from the roots

César's plot of land, called “El Tala,” was once abandoned, but now it's home to the native trees and shrubs he cultivates. “At first, I grew a little of everything, but once the place filled up with plants, I stopped focusing on herbaceous plants<sup>1</sup> because I'm more interested in urban forestry. I see plants as tools to address the resilience problems of our woodlands in the face of an increasingly aggressive climate,” César explains. He prioritizes hardy Chaco trees, such as guayaibí, peteribí, lapacho, tipa colorada, urunday, viraró, and black lapacho, considering their endurance will be crucial in the north-central region, where summers are growing more extreme due to climate change.

Before his greenhouse and activism, César's journey into the world of native plants began by chance, thanks

1. Herbaceous plants have no persistent woody stems above ground. They are usually used in gardens and commonly have flowers.

to his dog, Barto. “I started exploring parks in the city of Rosario, where I used to live, while walking Barto, my Breton Spaniel. One day, I sat under a timbó tree and noticed its distinctive seed pods. I picked some up and started investigating. That's how it all began.” In 2013, while still working in IT, César began researching how to grow native trees. His yard and sidewalk soon filled with them. Driven by curiosity and determination, he joined Facebook groups about native plants, documented urban tree species in Rosario, and became increasingly involved in public conversations about local woodlands.

“I learned about native flora by observing the streets. I hadn't yet visited forests or the quebracho woodlands. As I shared my knowledge, the Municipality reached out, and I helped start a native plant greenhouse in the Bosque de los Constituyentes, Rosario's largest public park, alongside a great team.” This marked a turning point, as César's passion for native plants evolved into professional work.

### The Native Plants Factory

In 2015, César left behind his office job and the tech world to fully commit to studying and propagating native vegetation, leading a unique public greenhouse project for the Rosario Municipality. “It was a beautiful project that's still thriving, thanks to the efforts of many, including Diego Solís and others. Eventually, it became part of the Municipality's public policy,” he says, reflecting on his nearly five years with the project, up until 2019.

Afterward, César returned to his hometown of Bigand, where he cleared a plot of land covered in overgrown thistles, to build a greenhouse with his own hands. At the same time, he embarked on what he considers “an even more important journey”—socio-environmental activism. He began sharing his knowledge of native trees on social media and became a key figure in biodiversity advocacy in Santa Fe. He also actively contributed to the ongoing debate over the Wetland Act, a piece of legislation that has been in the works for over a decade and aims to regulate the use and protection of wetlands, which make up more than 20% of Argentina's territory.

“Everything changed when I visited a forest for the first time,” César recalls. “I went to a quebracho woodland in San Justo, in central Santa Fe. It was the first time I saw a quebracho tree, and I also saw the forest's dire condition—half of it had been bulldozed. I saw both the beauty and the destruction.” For César, working with native plants is his greatest achievement because it embodies a deeper understanding of the human-nature relationship. “Social media helped spread the message, and now there's public policy supporting this work—something that seemed impossible not long ago.”

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The signs of the climate crisis range from severe storms in Argentina's central region to urban woodlands struggling to withstand hotter summers, to historic dengue outbreaks and the impact on local food production.

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### Activism 24/7

César's first visit to the forest was followed by many others. “Seeing the bare, chopped-down quebracho trunks was devastating. That's when I truly understood how fragile the forest is,” he recalls. “The greenhouse wouldn't exist without these experiences. I go to forests and wetlands to work, not just to enjoy them. We can't ignore the destruction. You can't visit these beautiful landscapes and remain indifferent to the two million hectares burned in the Paraná Delta, or to the sight of bare quebracho trunks.”

In early 2020, as large-scale wetland fires became more frequent in the Paraná Delta, César joined forces with activists from the Red Nacional de *Humedales* (National Wetlands Network), which includes members from many provinces, and *El Paraná no se toca* (Hands Off the Paraná), an organization dedicated to protecting the Paraná River. “I became fully involved in environmental activism, especially around the wetland fires, since there's not as much advocacy for forests in Santa Fe.”



In addition to the greenhouse, César has been involved in the debate over the Wetland Act, which aims to regulate the use and care of these ecosystems.



César views plants as tools to address the resilience challenges of urban woodlands in the face of an increasingly harsh climate.

## A Pending Agenda

Where does the environmental debate stand in Argentina today? For César, the situation is alarming. “The environmental debate gets overshadowed by political and economic crises, leaving little room for discussions about the environment. Ironically, we need these conversations now more than ever, but people have other priorities.”

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“We can't be indifferent to the destruction. You can't enjoy these beautiful landscapes without being concerned about the two million hectares burned in the Paraná Delta or the bare quebracho trunks,”  
César says.

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At the governmental level, the outlook is even worse. “In times of cuts and reforms, no one is thinking about allocating funds to environmental issues, despite the daily signs of the climate crisis—from severe storms in the central region to urban woodlands struggling with hotter summers, to historic dengue outbreaks, and the impact on food production. It seems like no one is paying attention.”

César points out that urgent issues, like the increasing hostility of cities during heatwaves or the growing number of cars, which make them inhabitable, require immediate attention. “We need to talk about cities adaptation to more frequent heavy rainfall, which is becoming the new normal.”

The challenge lies in promoting these debates and translating socio-environmental concerns from theory into practice—whether through fieldwork, research, social media, or public protests. César Massi does it all, continuing his activism, which unknowingly began with his dog Barto.





### Juan Chiummiento

Journalist. He began a radio program out of curiosity during his first year of college. Since then, he has gained extensive experience in private and public media outlets, in Argentina and abroad, including La Capital (Rosario), El Litoral (Santa Fe), Tiempo Argentino, Cronista, Dialogue Earth (International), and France24 (France).

# Recycle, Resist, Revolutionize: The Cartonero Movement in Rosario

In Rosario, Santa Fe, the *Dignidad Cartonera* cooperative is redefining waste management through sustainable, inclusive practices. This initiative is a milestone in the fight for dignified work and environmental protection in Argentina's third largest city.

In recent years, waste management has emerged as a critical issue in Argentina, sparking debates about its environmental and social impacts. At the heart of this conversation are the "cartoneros"—a term derived from the Spanish word *cartón* (cardboard)—who sort through refuse to collect recyclable materials. Their role extends beyond environmental stewardship to encompass social inclusion and worker's rights. One organization leading this charge is the *Dignidad Cartonera*<sup>1</sup> cooperative, part of the Argentine Federation of *Cartoneros, Carreros y Recicladores* (FACCyR).

Based in Rosario, this cooperative's journey has been one of transformation—from the margins of society to playing a key role in waste management. Over the years, their efforts have made prejudice shift: people have stopped

scorning to recognizing them as integral actors in the circular economy. *Dignidad Cartonera* advocates not only for the right to dignified work but also for recognition as essential workers in the fight against climate change. Their daily work of collecting and recycling materials directly contributes to environmental preservation.

The cooperative began in the early 2000s, amidst one of the country's worst crises, with a small group of individuals striving to survive by collecting recyclables in the streets. Today, it has grown into a community of 150 members who work in collaboration with the Rosario Municipality, helping to implement separate collection systems. This partnership has improved the working conditions of the cartoneros and raised community awareness about the importance of source separation and recycling, ultimately reshaping the public's perception of their work.

1. The name of the organization translates to Cartonero Dignity.



Argentine Federation of Cartoneros, Carreros y Recicladores. Popular Economy Worker's Union (UTEPA).

"We want to inspire others to follow our path. Creating a more just and sustainable world for everyone is possible," says Juliana Muchiut.

"I belong to the generation that lost jobs during the 2001 economic crisis. Alongside my neighbors, we decided to create our own source of work by becoming waste pickers," says Mónica, one of the cooperative's most experienced members, who lost her retail job in downtown Rosario during that economic collapse. She began making a living with a cart and a horse, traversing the streets to collect recyclables.

Much has changed since those days that shaped Argentina's recent history. In 2017, the Rosario Municipality approved a policy for separate waste collection, and by 2019, it was implemented in a pilot program in the Industrial neighborhood. Despite its successes, including participation from ten recyclers and five promoters from the cooperative, the project lacked access to a recycling center, leading to materials being processed at the municipal waste plant. While the initiative demonstrated the value of collaboration between cartoneros and local authorities, expansion was hindered by insufficient municipal support. This underscores the need for a comprehensive waste management policy that remains overdue.

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This model has improved the working conditions of cartoneros while raising community awareness about recycling and source separation.

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Juliana Muchiut, the cooperative's coordinator, highlights the positive impact the project had: "It was a game changer for us. It proved that when we're given the opportunity, we can contribute significantly to the city." Following this initial success, the project expanded into other neighborhoods such as Alberdi, Los Pumitas, and Fisherton.

The road to progress has not been easy. From facing social stigma to fighting for legal recognition and access to resources, members of the cooperative have encountered numerous challenges. Nevertheless, their unity and perseverance have been key to achieving meaningful advancements.

## True Environmental Defenders

The transformation of the *Dignidad Cartonera* cooperative reflects the strength of community-driven efforts and the determination to overcome systemic barriers. By working together, the members have established a waste management model that not only benefits the environment but also strengthens the city's social fabric. Today, they operate out of a warehouse in the southern part of Rosario, where collected materials are processed. Members receive a much fairer price for their recyclables than they would from traditional traders.

"The warehouse has been a blessing for all of us. Previously, traders paid us a pittance for our materials. Now, we negotiate directly with recycling industries and get a fair price for our hard work. This allows us not just to survive, but to prosper," says Claudia, who proudly identifies herself as an "environmental promoter."

The cooperative continues to push for policies that formally recognize the rights of cartoneros as workers. Their efforts involve ongoing negotiations with authorities. "We fight for policies that recognize us as essential workers, which would give us better working conditions and allow us to plan for a better future," explains Daniela, a lifelong cartonera whose entire family has been involved in the trade.

The experience of *Dignidad Cartonera* in Rosario offers critical lessons. It demonstrates the importance of integrating informal recyclers into formal waste management systems and acknowledging their vital contribution to both environmental preservation and the circular economy. Furthermore, it highlights the need to approach recycling from a social inclusion perspective, ensuring that those at the forefront of this work are not left behind.

Looking ahead, the *Dignidad Cartonera* cooperative aspires to be a model for cities and countries worldwide. Their story proves that collective action, driven by social justice and environmental sustainability, can lead to profound change. "We hope to inspire others to follow our path and show that a more just and sustainable world is possible," says Juliana, her words brimming with hope.

The *Dignidad Cartonera* cooperative works alongside the Rosario Municipality to implement separate waste collection programs in various neighborhoods throughout the city.



The cooperative has grown to over 150 members.














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