

Chile: drought, unresolved pollution and bad practices in the salmon industry



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9 JAN 2020 CHILE

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- *The social crisis in Chile has developed in a difficult environmental scenario with the most severe drought ever recorded in the country.*
- *This year, the municipalities of Quintero and Puchuncaví, located in a sacrifice zone due to their high levels of contamination, were supposed to obtain concrete decontamination solutions. However, expectations were not met.*

Five key facts

2019 ends with unfulfilled expectations regarding what it would mean for Chile to organize and host the most important climate summit in the world. The social explosion that is still shaking the South American country prevented the Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change from taking place in Chile and the country lost ground, to some extent, in expressing its vision and that of Latin America regarding the problem.

This year, the government was also expected to address urgent environmental debts. One of them was the implementation of a decontamination plan for the communes of Quintero and Puchuncaví in the Valparaíso region, a measure demanded for years by thousands of people, including victims of poisoning with toxic gases in 2018. Although this plan began to apply at the beginning of this year, scientists and specialists say that it does not address the underlying problem. The second promise had been the modernization of the fishing authority. A commitment that was fulfilled and from which it is hoped there can be greater control of illegal fishing.

Added to this environmental panorama was an unprecedented drought that has shown the ugliest face of a water crisis that has been affecting the country for 10 years. Also the bad practices within the salmon industry that were exposed after the scandal of Nova Austral, a company that provided adulterated information to the regulatory authority.

This is the balance of Chile's environmental mistakes and successes in 2019.

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THE SAD THING: COP 25 WAS NOT HELD IN CHILE

For the first time in history, a COP has been [cancelled](#). "This has been a very difficult decision, which has caused us a lot of pain," said President Sebastián Piñera when he publicly announced that the event would not be held in Chile.

Social organisations involved in environmental protection, although aware of the impossibility of holding the event in the midst of the social crisis, regretted this decision.



On Monday, December 2, COP25 opened in Madrid, where Chilean Environment Minister Carolina Schmidtz officially became the President of COP25.

Every year, the conference chooses a different continent as its venue, and in 2019 it was Latin America's turn. With the conference's move to Madrid, "the possibility of representing the problems and challenges of Latin America as such and not just Chile was symbolically lost," says Gary González, an economist at the Terram Foundation.

For Ricardo Bosshard, director of WWF in Chile, COP25 was the expected opportunity to "present the vision of the south, of the countries that perhaps have less responsibility in generating climate change but are the ones most affected by it." The Chilean Minister of the Environment, Carolina Schmidt, tried to compensate for this disappointment by pointing out that although the venue is in Europe, "the COP is from Latin America and the presidency will be concerned with maintaining that identity [...] highlighting the difficulties and vulnerabilities that developing countries have."

Bosshard adds that with the change of venue, the prominence that civil society was going to have in such an important space as the "green zone", a place for citizen encounters and environmental awareness, was also lost. Based on this participation "we hoped to have that voice present," says Bosshard. However, such presence was made impossible as planned due to the "many kilometers and pesos of distance."



Chilean Minister of Agriculture Antonio Walker at COP25

Katta Alonso, president of the organization Mujeres de Zona de Sacrificio Quintero Puchuncaví (Women from the Sacrifice Zone of Quintero Puchuncaví) —two communes declared environmentally devastated by high industrial concentration—, explains that the COP "was a very good opportunity to discuss the environmental issue that is very serious in the country, but not everyone is aware of it." According to the social leader, those who live in the environmentally impacted territories "know the dimension of the problem because they live with it every day, but the same does not happen in Santiago." Putting the discussion at the center of the social debate at a national level and thus achieving that environmental problems occupy a more relevant place on the political agenda, was the hope of Alonso and all the environmental defenders of the country.

Chile, however, did not lose either the presidency of the meeting or the responsibility of getting [a greater number of countries to commit to being more ambitious](#) in the greenhouse gas reduction plans they will present in 2020, the so-called Nationally Determined Contributions (NDC).

According to the Intergovernmental Panel on Climate Change (IPCC), countries must reduce their emissions by 45% by 2030 compared to 2010 and ensure CO2 neutrality by 2050. Failure to do so will result in global temperatures exceeding 1.5°C above pre-industrial levels, which will have a serious impact on ecosystems and people's lives.

By the time COP 25 began, 58 countries had already indicated their intention to work on improving their contributions. On Thursday, Minister Schmidt announced that 15 more countries have also committed to submitting improved climate action plans, bringing the total to 73 countries willing to increase the ambition of their NDCs. In addition, 14 regions, 398 cities, 786 companies and 16 investors are working to achieve net-zero CO2 emissions by 2050.

However, as the presidency team has acknowledged, negotiations have made little progress and there are countries that are blocking discussions, especially with regard to carbon markets and the loss and damage mechanism that establishes compensation for countries affected by climate change. These are two important issues that need to be improved in order to classify the conference as successful. UN Secretary General António Guterres says that there is still "time to make COP25 very relevant" since it is customary for progress to be made in the final hours.



San Rafael Lagoon, Chile. Photo: Ministry of Environment

Chile is one of the countries that has made the most progress in terms of proposing an ambitious goal to reduce greenhouse gas emissions. However, the proposal has not been exempt from criticism since, according to biologist Flavia Liberona, executive director of Fundación Terram, Chile's proposal does not reach the 1.5°C goal and remains at 2°C. On the other hand, although the plan complies with reducing emissions by 45% by 2030, it specifies that the country will continue to produce more emissions until 2027 as the *peak* year, and that it will then begin to progressively reduce its levels until reaching the carbon-neutral goal by 2050. "There are still major doubts about how this reduction can be achieved in just three years," says González.

To achieve this, Bosshard points out that it would be necessary to at least consider closing coal-fired power plants in 2030 and not in 2040 as proposed by the government, also to advance the *peak* year of emissions (in order not to wait until 2027) and to increase the area of restoration and management of native forests to 500 thousand hectares. "Additionally, Bosshard adds, it is important to develop a long-term strategy to reach the 2050 goal and to implement concrete measures in the short term. Among them, adaptation plans must have urgent financing and implementation in the face of the climate crisis that is already being experienced in Chile."

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WHAT WAS NOT FULFILLED: QUINTERO AND PUCHUNCAVÍ STILL CONTAMINATED

After more than 700 residents —mostly children— of the Quintero and Puchuncaví communes [suffered poisoning last year after inhaling toxic gases](#), the government announced that it would develop a comprehensive plan to decontaminate the area shared by thousands of people with companies accused of bad environmental practices. The plan went into effect on April 1 with the promise that within five years the affected communes would comply with the country's current air quality standards and would thus cease to be considered "sacrifice areas."

The NGO Defensoría Ambiental (Environmental Protection Agency) claims that this is not enough, since the current regulations in Chile "far exceed the levels recommended by the World Health Organization" and because only some of the elements that are emitted into the environment are regulated.



Fishermen collect coal from the beach with shovels. Photo: Michelle Carrere.

In fact, the plan only contemplates that companies reduce their emissions of particulate matter (PM), sulfur dioxide (SO₂) and nitrogen oxide (NO_x). However, toxicologist Andrei Tchernitchin, president of the environmental department of the Medical Association, assures that “the gases that appeared during Quintero's poisoning are not regulated in any plan to reduce them” and the Environmental Ombudsman adds that the plan “does not take into account arsenic or heavy metals from copper smelting and coal-fired thermoelectric plants.”

However, “it is clear that local populations will continue to live in a contaminated environment,” says the Ombudsman.

Last May, the Supreme Court ruled in favor of the victims of the 2018 poisonings and ordered authorities at different levels of government to adopt, within a year, a series of measures to monitor the health of those affected and definitively stop the episodes of contamination in the area.



View of the industrial park from Ventanas beach. Photo: Michelle Carrere

However, just weeks before the end of the year, [residents maintain that none of these measures have been applied](#) and that even since the ruling, around five new cases of poisoning have been recorded. Deputy Diego Ibáñez, member of the health and environment committees of the Chamber of Deputies, confirmed that “there is no greater clarity on the concrete measures that address the structural points that environmental movements consider important to emphasize in the Supreme Court ruling: we are talking about a new environmental quality standard for soil, air and water that regulates contaminants that do not exist in Chilean legislation.”

That is why in June, from the environment and health commissions of the Chamber of Deputies and Senators, parliamentarians created a front to demand compliance with the measures dictated by the Supreme Court. Although Deputy Ibáñez confesses that this work has been interrupted by the social outbreak, he assures that they have not abandoned it. Hernán Ramírez, associate researcher at Fundación Terram, specifies that if the ruling is not complied with, the next steps will be to “appeal to the courts for non-compliance with the measures dictated by the Supreme Court and, in parallel, appeal to international Human Rights bodies.”

Mongabay Latam contacted the Ministry of Environment for its version, however, by the time this publication went to press, there had been no response.

[Read more | Environmental DNA in Chile: scientists take water samples to identify species](#)

THE DIFFICULT THING: DROUGHT, A PROBLEM THAT REPEATS

This year has broken all historical records. René Garraud, a climate scientist at the Scientific Centre for Climate and Resilience (CR2), says that while there have been other years in which it has rained as little as this one, 2019 “comes after seven, eight and even 10 dry years”, so the cumulative effect has aggravated the situation.



The Putaendo River has not had water for years and has become a garbage dump. Photo: Michelle Carrere

The megadrought, as this prolonged phenomenon of water shortage has been called, is “probably the main socio-natural disaster that has affected continental Chile across the board during this century,” states [a report from the Ministry of Agriculture](#) published last November.

Currently, four regions of the country are facing agricultural and livestock emergencies due to water shortages, and two in particular, Valparaíso and Coquimbo, have even been declared disaster zones. The Ministry of Agriculture informed Mongabay Latam that 1,500,000 [animals have died in the affected regions due to the drought](#).

The problem has been exacerbated by the effects of [climate change, which has led to a decrease in rainfall](#) and an [over-demand for water to supply the agro-industry](#). The areas affected by the drought are also agricultural regions. In fact, Valparaíso is the region of the country with the largest number of hectares planted with avocados: 19,134 hectares, according to the 2017 fruit registry of the Ministry of Agriculture.

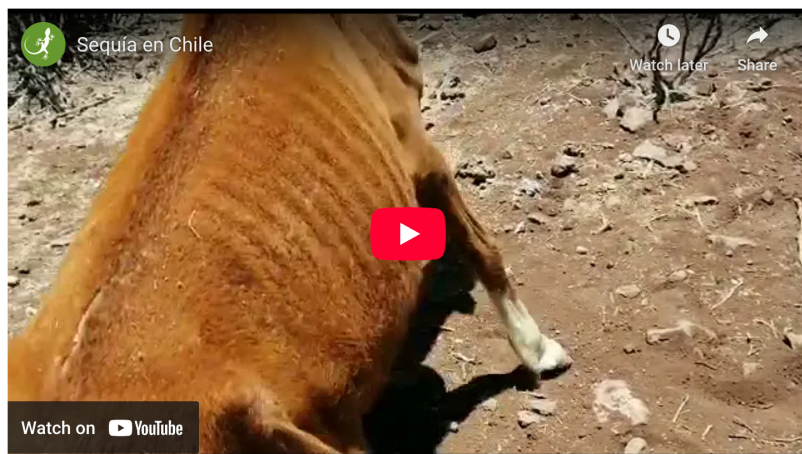


Thousands of goats have died due to lack of food in Putaendo. Photo: Michelle Carrere

Avocado crops consume between 700 and 1,200 liters of water per kilo produced, says Ariel Muñoz, a scientist who has participated in the measurements carried out by the Geography Institute of the Catholic University of Valparaíso and CR2. “That, multiplied by the number of trees there are and the number of hectares that are planted, we are talking about enormous figures of water consumption,” he says, especially in areas that present a high variability, that is, where there are years that can be rainy and others, as has occurred in the last decade, that are extremely dry, explains Garraud.

To combat the problem, the ministry says that more than 20,000 farmers have been given aid with resources amounting to 2.3 billion dollars. At the same time, it assures that the action plan has focused on “technifying” irrigation in the agricultural sector with an investment of at least 5 billion dollars and that the drought adaptation plan maintains that path. “The Government announced [...] an increase of around 48% in this year’s budget of the National Irrigation Commission,

going from \$67 billion (86 million dollars) to more than \$100 billion (128 million dollars)," it said.



Adapting to drought also involves, among other things, "planting what is appropriate for each place. There are places that are too dry to be used for crops with high water demand," says Muñoz. But the problem is that in Chile there is no land use plan that allows for proper management of watersheds, says the scientist. "These are policies that have never been implemented in the country, but are urgently needed." The Ministry of Agriculture, however, says that for the moment no such plan is being considered.

The expert adds that "before distributing the water, the first thing to do is to determine the water balance, that is, to know how much water there is." However, the last water survey dates back to 1987, although the General Directorate of Water is currently carrying out a study to update the data for some basins.



The Aranda family had to give the fava bean residue to the animals. Photo: Michelle Carrere.

In a November report, the Ministry of Agriculture acknowledged that the problem of drought "has not been adequately addressed through medium-term policies that overcome the marginalization of the peasants and rural inhabitants involved." According to González, from the Terram Foundation, there are no signs that this will change in the short term.

Read more | [Chile: The incredible story of Kalfu, the chungungo calf fighting for his life](#)

THE UGLY: BAD SALMON FARMING PRACTICES UNCOVERED

In August, the [salmon industry](#) suffered a major setback after the Norwegian-owned company Nova Austral, whose farms are located inside the Alberto de Angostini National Park in the southern part of the country, was discovered [providing false information to the National Fisheries Service](#) (Sernapesca), the regulatory authority. The company had built a reputation for sustainability by producing antibiotic-free salmon. According to the company, its fish did not get sick thanks to the use of cutting-edge technology, however, this was not true and most of its farms had mortality rates of over 15%, a percentage that, when exceeded, leads to sanctions. To avoid fines, the company kept double records of its salmon mortality and reported lower than actual amounts to Sernapesca.



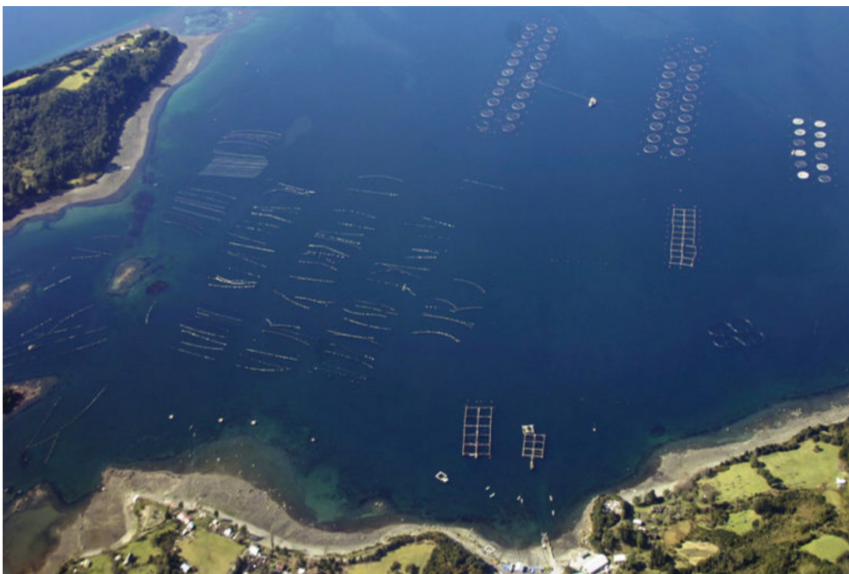


Salmon farming. Photo: WWF Chile – Meredith Kohut.

The scandal led to the resignation of the general manager, Nicos Nicolaides, and triggered three lawsuits by Sernapesca, one of them for “adulteration of the seabed.”

In fact, the story did not end with the deception in the figures provided, but Sernapesca found that the company altered its work space to illegally obtain the permits that would allow it to operate in a place that did not meet the biological conditions. To achieve this, Nova Austral buried the seabed with stones that was in anaerobic conditions - with low levels of oxygen - to reverse these indices and continue farming salmon. In August, the Environmental Superintendence, the public service in charge of monitoring and supervising environmental permits, opened four sanctioning processes against the company.

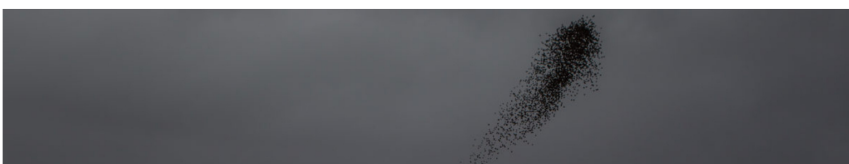
Nova Austral has been in the eye of the storm for some time. Following its intentions to [expand into the pristine waters of the Cape Horn Biosphere Reserve](#), residents put up fierce resistance at the beginning of the year by organizing demonstrations. They do not want the same thing to happen there as in the Alberto de Agostini National Park.



Salmon farms in Patagonian fjords, Chile. Photo: Vreni Häussermann

In an opinion column published on the specialized website Aqua, the director of Sernapesca, Alicia Gallardo, pointed out that the Service is working on improving the inspection system. “We are incorporating new technologies for disease and environmental monitoring to complement on-site and remote inspection, through the use of ROVs for bottom monitoring; satellite images (*ex situ*) for the position of modules versus the concession granted; satellite monitoring in aquaculture; drones; phytoplankton sampling in fish transport vessels; geographic information systems with a viewer of remote monitoring centers and cameras.”

Liesbeth van der Meer, Executive Director of Oceana Chile, highlights with discomfort how salmon farming companies have refused in the last seven years to provide information on the amount of antibiotics they use in their production. “Some of them, such as Mowi and Ventisqueros, are part of the Global Salmon Initiative where they say they share values of transparency, integrity and sustainability but, on the other hand, they make colossal efforts to prevent the publication of information in Chile.” According to Van der Meer, “these efforts to prevent or delay the delivery of information lead to the assumption that the data hides disastrous scenarios,” so “we believe it is essential to approve the law that has within its articles the obligation of each salmon farm to publish monthly the use of antibiotics together with the biomass produced.”





Worker feeding salmon. Photo: WWF Chile-Meridith Kohut.

Although Chile is the world's second largest producer of salmon, the country has no scientific research analyzing the impact of the industry at the ecosystem level. Cristián Vargas, a marine biologist and director of the Center for the Study of Multiple Forcings in Marine Socio-Ecological Systems, points out that while there is a lot of scientific evidence of what happens under the cages where salmon are raised, "there is no analysis of what happens at the scale of an entire environment, for example, a fjord." This information, in the scientist's opinion, would be extremely relevant, especially in systems that have a large productive load, that is, that have many farming centers.

Read more | [Chile: Sardine and anchovy catch quotas increase after protests by fishermen](#)

THE GOOD: MORE CONTROL OF ILLEGAL FISHING

After three years of processing, this year the law was created that modernizes and strengthens the role of the National Fisheries and Aquaculture Service (Sernapesca) in the control and combat of illegal fishing.

This new regulation has made it possible to establish the parameters with which fines are calculated and also to establish specific infringements within the entire production chain: processing, manufacturing, storage and marketing of illegal fishing. This is based on the principle that it is necessary to focus on the entire criminal chain and not just on the weakest link, which is generally the artisanal fisherman.

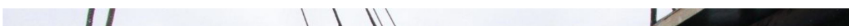


Industrial fishing: photo by Oceana

In addition, the new law allows for more severe penalties for illegal fishing that affects overexploited or collapsed marine resources.

Work has also been done to design more drastic sanctions for the crime of illegal extraction of resources in management areas: places where artisanal fishing organizations extract benthic resources through a management plan based on conservation. With the new law, "this action will be vigorously punished," says Sernapesca in a statement.

On the other hand, Sernapesca and the NGO Global Fishing Watch signed an agreement so that the information recorded by the vessel monitoring system (VMS) can be published on the international organization's web platform. In this way, the positioning data that until now was private, became open so that anyone from anywhere in the world can access it. "It will be a great tool to evaluate the degree of compliance within marine protected areas, something that can be publicly monitored, including the communities that live in those areas," said Liesbeth van der Meer, Executive Director of Oceana Chile.





Anchovy fishing: photo: Andina

Finally, all industrial and artisanal vessels over 15 meters in length must install surveillance cameras on board. The objective is that these cameras can replace the work of an observer and the entire fleet can be duly monitored. The news that was announced at the end of last year was to be finalized this year, however, to date this mechanism that will allow us to know what is actually caught by the vessels has not yet been put into operation and remains pending as one of the unpostponable issues of 2020.

***Main image:** Putaendo. Only 31.6 mm of rain has fallen so far this year. **Photo:** Michelle Carrere



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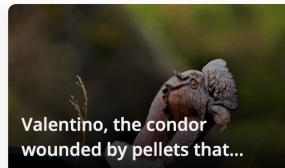
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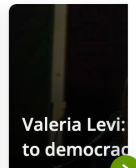
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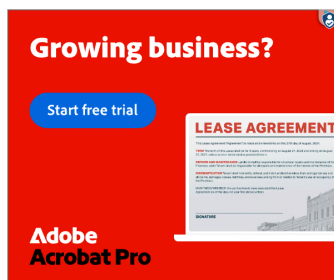


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