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Massive death of seabirds in Iquique puts anchovy purse seine fishing in the spotlight

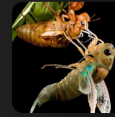
SCIENCE AND BIODIVERSITY, NEWS, CONTESTS AND PANORAMAS

By  Paula Diaz Levi

📅 August 4, 2021 · ⌚ Reading time: 11 minutes

The Iquique coastline became a gruesome scene after numerous seabird corpses were reported on July 23. According to estimates, around 500 specimens died, mostly Guanay cormorants. Although the investigation is still ongoing, the autopsy carried out by the SAG determined that the cause of death was immersion or drowning, ruling out the presence of diseases and poaching in the first instance. For this reason, this event has been attributed to the anchovy purse seine fishing, which would have cost them their lives while these animals were feeding. For this reason, citizens, local authorities and organizations call for strong measures to be taken to avoid this type of events that – they say – are more recurrent than believed.

The coasts of Iquique became a gruesome scene after numerous seabird corpses were reported on July 23 in the south of Brava beach. Photographs denouncing the incident were not long in coming on social media, including [some that even showed pelicans trapped](#) in fishing nets. In response to the complaint, the maritime police and officials from the Agricultural and Livestock Service (SAG) went to the site, where the death of 186 birds was initially confirmed, the majority of which were Guanay cormorants, and to a lesser extent, Yeco cormorants, boobies and pelicans.



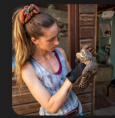
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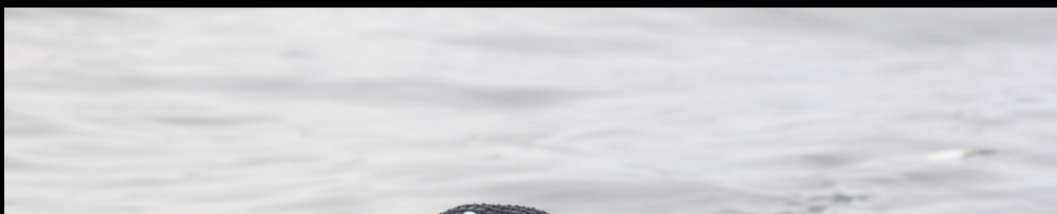


However, in other areas of the Iquique coast, more bodies were found. For example, volunteers cleaning the beach found around 200 bodies on Huayquique Beach, followed by other reports from researchers, including marine biologist Guillermo Guzmán from the Arturo Prat University, who [told Cooperativa](#) that the final estimate was around 500 specimens. That is without forgetting the unknown number of animals that - presumably - sank into the sea, such as pelicans, which are heavier.

Although the incident is still under investigation to determine who is responsible, there are already precedents such as the autopsy carried out by the SAG, which initially ruled out the presence of diseases or poaching of the dead individuals. Thus, the available evidence shows that the animals died as a result of purse seine fishing to catch anchovy, a fish that is an essential food for seabirds in the area.



This is how Verónica González, coordinator of the NGO Golondrina de Mar, explains, "According to the SAG report, poisoning and/or any disease is ruled out, indicating that these were specimens in perfect condition, showing that **at the time of death they were in the process of feeding**. Coincidentally, during the days prior to the stranding, the presence of fishing fleets very close to the coast could be observed, which use the purse seine fishing method. The final SAG report is conclusive: **the cause of death is pulmonary edema, that is, death by immersion or drowning**."





However, this fact would not be isolated. The councilor of Iquique, **Rodrigo Oliva**, says that "what we have done is basically put the background on the table. A large part of the records that have served to expose the issue publicly have been records that we have recovered ourselves, colleagues from artisanal fishing who, concerned about the situation that usually occurs when the anchovy season opens, are trying to expose the consequences generated by this intense fishing activity so close to the shore."



To give you an idea, **the net** used to fish for anchovy consists of a long wall of netting framed by an upper line of floats and a lower line of weights. In addition, it has rings hanging from the bottom, through which a rope or steel cable called a drawstring runs.

which allows the net to be closed. On the other hand, we speak of **bycatch** when the unintentional capture of marine species that are not the target of the fishing activity occurs, which often results in the death of these animals.

That would have been precisely what triggered the death of seabirds in Iquique.

"There is a global consensus that **discards and bycatch represent a significant fraction of global catches, constituting one of the greatest threats to ocean sustainability**. This is why several international organizations have drawn attention to the need to assess the impact of this practice and reduce it, promoting the use of technologies or other means to mitigate it," explains **Miguel Araya**, fisheries biologist, researcher and academic in the Area of Marine Biology and Aquaculture at the Arturo Prat University in Iquique.



Araya, who holds a Master's degree in Fisheries and a PhD in Coastal Marine Systems, adds that "it is estimated that **at least 1 million seabirds, 8.5 million sea turtles and 650 thousand marine mammals**, [both protected, endangered or threatened with extinction](#), interact globally with fishing operations every year, and may die as a result of said interaction."

In this regard, González points out that "unfortunately this situation is much more frequent than it seems, it only becomes visible when the strandings occur on populated coasts where people witness the events and report them. In addition, it must be considered that only a small percentage of these dead birds reach the coast."

Sudden death in feeding frenzy

On July 30, [a meeting was held](#) [that brought together local authorities, representatives of government institutions and environmental organizations, in order to review and present the information gathered after the death of the marine bird.](#)





In this way, entities such as the SAG reported that the condition of the bodies was rather homogeneous, and that no signs or symptoms of illness (such as Newcastle disease) were detected. Neither were alterations in their plumage, secretions, presence of chemical elements, oily coatings, or lacerations caused by sharp objects or projectiles observed.

On the contrary, the body condition of the birds seemed to be adequate. In other words, they looked healthy. In fact, the inspection detected food in the carcasses, that is, the ill-fated birds had anchovy in their beaks and in their esophagus. This suggests that they were feeding when their sudden death occurred.



Marine ecologist **Andrea Auger** explains that “since anchovy is the main food in the diet of these guano species, when anchovy purse seine fishing is carried out, the school is enclosed within the purse seine net, and the birds begin to enter to be able to dive inside or dive in and capture the fish that are inside. When the net is set, that is, thrown into the sea, various species of seabirds begin to congregate, hundreds and thousands of them begin a feeding frenzy, where each and every one of them needs to eat enough to maintain its optimal biological state.”

However, when the net begins to close, “the birds that are diving cannot see it, emerging inside it. On the other hand, birds that hunt by diving get entangled in the line of corks or in the mesh opening of the net and, unable to free themselves, die by drowning or fractures due to the traction of the net,” says Auger.



☐ Death of birds in Iquique. Courtesy of NGO Galonérina de Mar

Regarding estimates on the impact of bycatch, a study by the “ [Research and Monitoring Program on the Discarding and Capture of Bycatch in Pelagic Fisheries, 2019-2020](#) ” by the Fisheries Development Institute showed that 20 species of mammals, birds and turtles were recorded out of 3,039 sets.

Nombre común	Nombre Científico	Captura	Muertos
Lobo marino común	<i>Otaria flavescens</i>	3.948	5
Lobo fino austral	<i>Arctocephalus australis</i>	1	0
Gaviota garuma	<i>Leucophaeus modestus</i>	6	6
Pelicano peruano	<i>Pelecanus thagus</i>	28	15
Piqueros	<i>Sula variegata</i>	98	58
Guanay	<i>Phalacrocorax bouganvilli</i>	47	15

Gaviotín monja	<i>Larosterna inca</i>	61	0
Gaviota de Franklin	<i>Larus pipixcan</i>	2	2
Pingüino de Humboldt	<i>Spheniscus humboldti</i>	9	1
Albatros ceja negra	<i>Thalassarche melanophris</i>	1	1
Fardela blanca	<i>Ardenna creatopus</i>	8	8
Fardela negra	<i>Ardenna grisea</i>	582	390
Tortuga verde	<i>Chelonia mydas</i>	3	0
Tortuga laúd	<i>Dermochelys coriacea</i>	2	0
Tortuga cabezona	<i>Caretta caretta</i>	1	0
Tortuga olivácea	<i>Lepidochelys olivacea</i>	2	0
Delfín oscuro	<i>Lagenorhynchus obscurus</i>	41	30
Delfín común	<i>Delphinus delphis</i>	56	16
Delfín nariz de botella	<i>Tursiops truncatus</i>	4	4
Delfín sin identificar	-	15	0

Incidental capture and mortality in the industrial purse seine fleet that operated on the anchovy resource, between the regions of Arica and Parinacota, and Antofagasta. Data from the registry of scientific observers on 3,039 commercial fishing trips during the period 2017-2019. (Table 1)

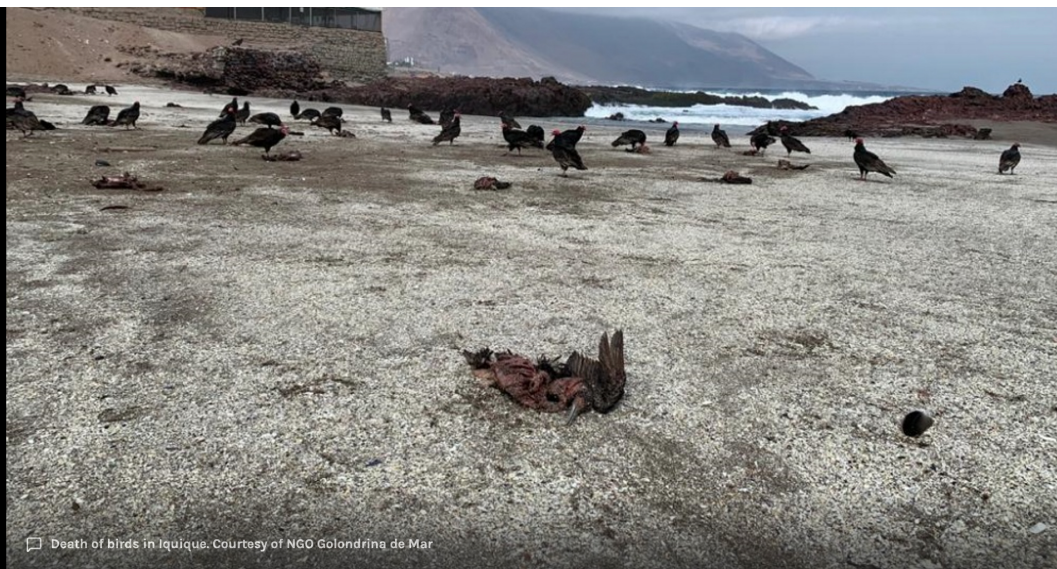
In the artisanal purse seine fishery, meanwhile, 7 species were recorded in 483 fishing trips.

Nombre común	Nombre Científico	Captura	Muertos
Lobo marino común	<i>Otaria flavescens</i>	482	1
Gaviota garuma	<i>Leucophaeus modestus</i>	2	0
Pelicano peruano	<i>Pelecanus thagus</i>	2	2
Fardela negra	<i>Ardenna grisea</i>	8	8
Piquero	<i>Sula variegata</i>	53	51
Tortuga verde	<i>Chelonia mydas</i>	1	0
Guanay	<i>Phalacrocorax bouganvilli</i>	200	200

Incidental capture and mortality in the artisanal purse seine fleet that operated on the anchovy resource, between the regions of Arica and Parinacota, and Antofagasta. Data from the registry of scientific observers on 483 commercial fishing trips during the period 2017-2019. (Table 2)

However, Araya warns that " the lack of reliable data on the levels of discards and bycatch creates uncertainty in the assessment of total fishing mortality , introducing errors into fishery statistics and estimates of yield and effort, as well as in the assessment of management measures, also altering the bases of scientific advice for management under an ecosystem approach. However, the assessment of discards is a complex task because in general they have not been estimated correctly and although improvements have been observed in the number and diversity of observation programs, self-reporting programs and electronic monitoring systems, there are still many fisheries and regions for which there is no information in this regard."





☐ Death of birds in Iquique. Courtesy of NGO Golondrina de Mar

Some are therefore seeking major regulatory changes to ensure good practices in one of the world's largest fisheries.

Running the fence

The academic from the Arturo Prat University indicates that "two types of purse seine vessels participate in the fishery in northern Chile: industrial (around 57 vessels in 2017) and artisanal (length between 9 and 18 m with an average of 16 m, 143 vessels in 2017). The artisanal fleet generally operates between the coast and within 5 nautical miles."



☐ Purse seine fishing in Iquique
@pukarafoto

In this regard, there are regulations that are of interest in this matter. On the one hand, [Article 7 C of the fishing law](#) [☐](#) establishes the obligation to return to the sea those marine mammals and seabirds that are caught in the nets, although González warns that "it seems that this would not be applied by those who make the decisions on board the vessels with the consequent outcome that we have already seen."

On the other hand, there is [resolution No. 718-21](#) [☐](#) of the Undersecretariat of Fisheries that establishes the list of target species, accompanying fauna and incidental fishing for the anchovy fishery between the regions of Arica and Parinacota, Tarapacá and Antofagasta.

In addition, a Supreme Court ruling removed the fishing industry from the 5-mile zone, which had repercussions – according to various sources – in a boom in the construction of boats under 12 meters, through which the industry outsources the extractive activity through these artisanal or semi-industrial vessels.



Death of birds in Iquique
@pukaraloto

In this regard, Oliva points out that “unfortunately, there is very little that can be generated at a local level given the excessive centralization of the fishing model and decision-making. It is unusual, but much of what is happening is considered legal by the current law in force, particularly regarding the elements proposed by the fishing law to be able to categorize what is artisanal fishing, given that after the Supreme Court’s resolution ending the 5-mile industrial fence, what has happened is an emergence of different artisanal vessels that, ultimately, given the inability of the industry to work in the protected area, these artisanal vessels are being transformed into purse seiners, with a length of less than 18 meters, which allows them to fish close to the coast. That is legal today.”

For this reason, some are calling for the artisanal sector to be recategorized and the fence to be moved away from the coast, where some bird species, such as cormorants, are concentrated.

The Iquique councillor adds: “What we have done at the parliamentary level is to present a bill that can recategorise artisanal fishing activity and also close the first mile in particular or restrict purse seine fishing activity in its entirety in what are the first miles, and in particular the first mile. This has to go hand in hand with a bill that manages to reformulate at least article 47 of the fishing law that establishes a protection zone but that, unfortunately, has been permanently violated.”

In this way, they seek to avoid not only the collapse of the anchovy, but also of the marine and coastal ecosystem.

González hopes that “the investigations and complaints made will be successful and that the situation will not end there, and that, if those responsible are not punished, good practice criteria (which already exist) will finally be met in order to avoid further deaths of the various species in the future, whose food depends precisely on the sea and its natural balance.”

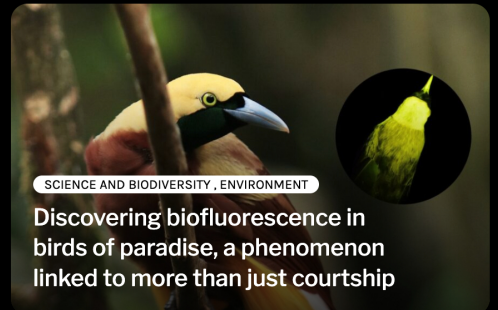
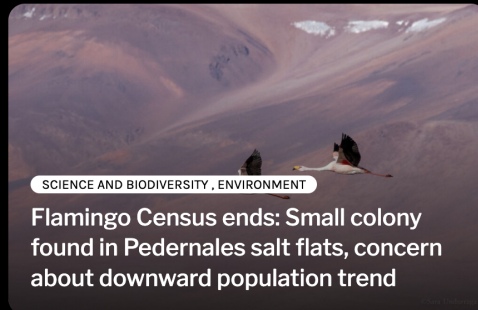
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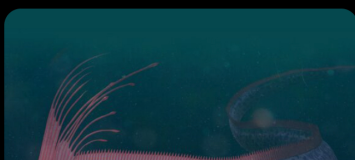
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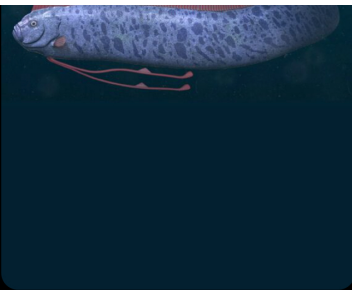
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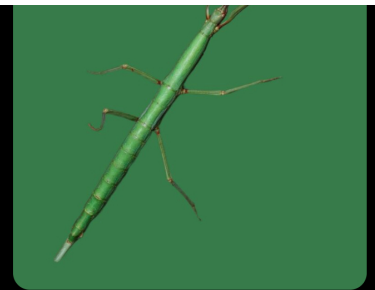
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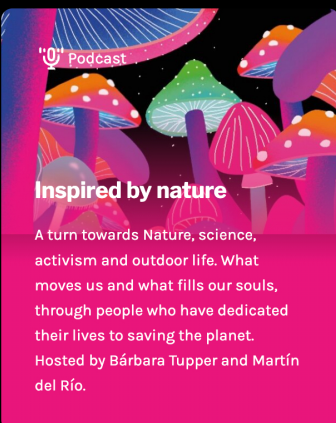


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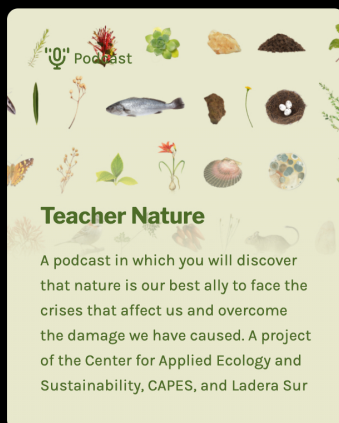
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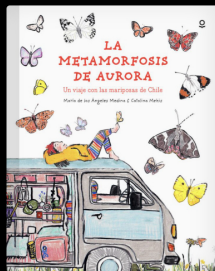


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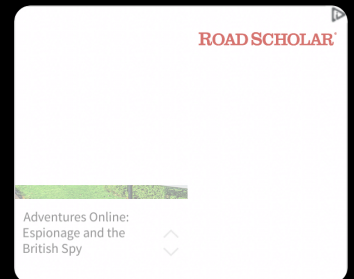
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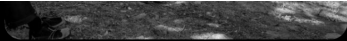
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8M Commemoration

🕒 10:00 am

📍 Apoquindo Falls Trail, La Plaza South Park (La Plaza Avenue 2500, Las Condes).



Kiva, the Voice of Ancestral Communities

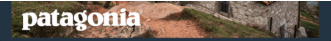
📍 Callejones Park Field (Camino Real 20, Codegua)



Rewilding in Argentina: parks, wildlife and local development

🕒 7:00 pm

📍 Patagonia Buenos Aires - Suipacha 1178, CABA.



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