



Illegal fishing for fish meal widespread in Ecuador marine reserve

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- *Industrial fishing is prohibited in the coastal waters of the Cantagallo-Machalilla Marine Reserve in Ecuador's Manabí province, which is home to numerous threatened species.*
- *Yet between November 2020 and March 2022, more than half of the government alerts for unauthorized fishing in Manabí province occurred within the marine reserve, according to a Mongabay analysis.*
- *Local residents say industrial ships enter the reserve's waters to illegally harvest small pelagic fish like*

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PUERTO CAYO and PUERTO LÓPEZ, Ecuador — Luis Torres had just finished unloading the day's catch in Puerto Cayo when he agreed to speak to Mongabay Latam. It was a hot, cloudy day in this coastal Ecuadorian fishing town in Manabí province. He straightened his hat, cleaned his hands with a shirt and walked toward the side of the beach to distance himself from the noise of the nearby beach market.

"Industrial [fishers] fish in mile six, more or less," Torres said, referring to a place that is, by law, reserved for artisanal fishers. A portion of this catch "goes straight to [be made into] fish meal. Everyone knows it," he said.

The fisher added that according to local residents, industrial ships enter the waters of the Cantagallo-

Machalilla Marine Reserve and illegally harvest small pelagic fish like anchovies, sardines and herrings for processing into fish meal, despite a government order prohibiting this practice.



Artisanal fishers prepare their fish to be sold in Puerto López, Ecuador. Image by Yalilé Loaiza.

However, discussing this is not easy. The fishers are afraid. Torres shared what he has seen with the condition that Mongabay protect his identity, so the name given here is a pseudonym.

In the ocean, the first eight nautical miles from shore are crucial. There, the soft seafloor — made of sand, clay and other sediments — provides food for many organisms and an area for numerous fish species, especially small pelagic fish, to reproduce. This first strip of the ocean is so important that many countries, including Ecuador, have established by law that only artisanal boats can fish here, and industrial fishing is prohibited.

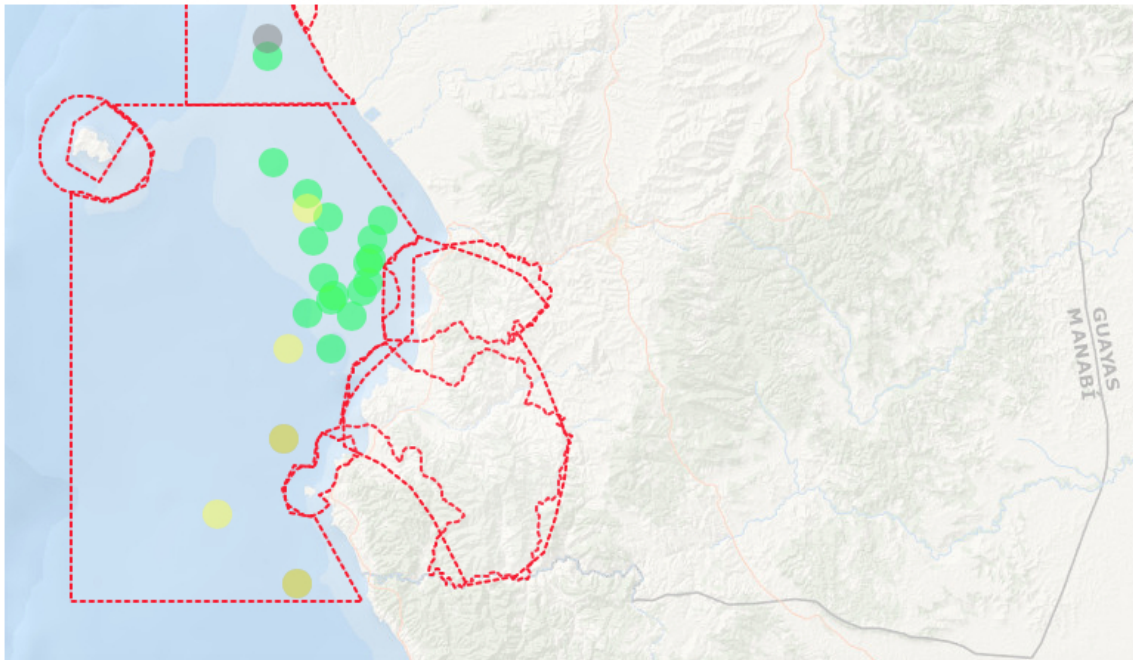
Mongabay Latam visited the Cantagallo-Machalilla Marine Reserve and accessed information from Ecuador's Ministry of Production, Foreign Trade, Investments and Fisheries showing that between late 2020 and early 2022, at least 44 unauthorized fishing alerts were detected within the first eight nautical miles of the reserve.

Alerts from the Ministry of Production

Since March 2020, the Ministry of Production has been conducting the Project for the Improvement of the Competitiveness of the Aquaculture and Fishing Sector, which aims to establish guidelines to guarantee the traceability of fish products and efficiently control fishing practices to ensure the sustainability of marine resources. According to information provided by the Ministry of Production, this project "requires that the country have the highest standards in the practice of fishing and aquaculture activities" with the goal of "adopting measures to prevent, discourage, and eliminate undeclared and unregulated illegal fishing."

Mongabay Latam reviewed 156 alerts issued between November 2020 and March 2022 by four units within the control department of this project. We found that during that period, in Manabí province, 78 alerts for unauthorized fishing were registered within the first eight nautical miles. This unauthorized fishing was carried out by 16 industrial ships. Of the 78 alerts discussed in the reports, 46 contained

geographic coordinates. After plotting the coordinates on a map, Mongabay Latam found that 44 of the alerts occurred inside the Cantagallo-Machalilla Marine Reserve.



A map based on the alerts issued by the control department of the Project for the Improvement of the Competitiveness of the Aquaculture and Fishing Sector. The area outlined in red corresponds to the Cantagallo-Machalilla Marine Reserve and to Machalilla National Park. Image by Mongabay in collaboration with Fabio Favoretto, Autonomous University of Baja California Sur.

With the exception of four cases, all the detected ships were repeat offenders. For example, a ship named Wellington José was registered on 10 occasions between November 2020 and May 2021 for conducting suspicious fishing activities within the first eight nautical miles of the marine reserve. Likewise, the Walter Ramón had seven alerts for unauthorized fishing within the protected area, and the Daniel Santos II had nine. A ship named Brisas del Mar registered 15 alerts for “fishing in an unauthorized area near the coast.” While the information did not include the exact coordinates, it did specify areas in Manabí province, where the marine reserve is located.

The Ministry of Production told Mongabay these alerts did not “obligatorily [result in] an infraction.” According to the ministry, analysts from the project’s control department use satellites to monitor the ships found fishing. After a ship is observed committing a presumed infraction, the analysts send a report to the appropriate administrative unit and a case is opened in which the fishers exercise their right to defend themselves. Later, a trial is held and a resolution is announced.





Artisanal boats in Puerto Cayo. Image by Yalilé Loaiza.

Although 64 fishing-related administrative cases were opened between January and April 2022 to investigate alerts for fishing in unauthorized areas within the first eight nautical miles of Ecuador's entire coast, the Ministry of Production's Legal Support Department initiated only one process to sanction this type of infraction.

Mongabay Latam asked the ministry about this apparent discrepancy. By the time of this article's publication in Spanish, the ministry had not responded.

Of the 16 industrial ships for which alerts were issued for unauthorized fishing too close to the Manabí province shore, 14 are dedicated to fishing for small pelagic fish like anchovies and sardines with purse seines, and two use trawl nets to capture hake and shrimp.

Several environmental organizations say that one of the main impacts of trawl nets and purse seines is their low selectivity. Many of the species trapped in these nets are not the ones the fishers are trying to capture. In addition, by scraping the seafloor, trawl nets stir up sediment, affecting marine ecosystems and species dynamics. Purse seines can have the same effect if they are used close to shore: According to the marine conservation organization Oceana, the first few nautical miles of the ocean are shallow, so purse seines also wind up dragging along the seafloor.



Anchovies. Image courtesy of Oceana.

A protected area — but only on paper?

The Cantagallo-Machalilla Marine Reserve was created in 2015 to protect more than 84 species of terrestrial and marine mammals, 82 species of birds and 36 species of amphibians and reptiles that inhabit the area.

One of the main attributes of this protected area is that it is home to the world's largest known population of endangered oceanic manta rays (*Mobula birostris*). It is also a place where humpback whales (*Megaptera novaeangliae*) mate and give birth. Further evidence of this area's importance is the fact that the coasts within the reserve serve as nesting beaches for sea turtles, including the critically endangered hawksbill turtle (*Eretmochelys imbricata*), the endangered green turtle (*Chelonia mydas*), and the vulnerable olive ridley (*Lepidochelys olivacea*) and leatherback turtles (*Dermochelys coriacea*).

Birds living in the marine reserve include species endemic to Ecuador's section of the coastal Tumbes-Chocó-Magdalena biodiversity hotspot that stretches from Panama south into northern Peru, as well as the magnificent frigatebird (*Fregata magnificens*), the black-headed gull (*Chroicocephalus ridibundus*), the sooty shearwater (*Puffinus griseus*) and the black petrel (*Procellaria parkinsoni*).



An oceanic manta ray near Plata Island. Image by Michel Guerrero.

The reserve's management plan, created in 2019, establishes which activities are allowed or prohibited to conserve the marine ecosystems and coastal areas. The plan acknowledges that even though industrial fishing is prohibited within the first strip of the ocean, overexploitation for the production of fish meal by trawlers and multipurpose boats operating within eight nautical miles of shore is one of the factors affecting fishing resources.

To end this overexploitation, the management plan divides the reserve into different areas and establishes that between mile two and mile eight only artisanal fishers can fish. However, three years after its creation, the management plan remains unapproved and is considered a "draft."

Safeguarding fish stocks so local fisheries are sustainable is not the only goal of this zoning inside the marine reserve. Another goal is to protect food sources for the species that the protected area aims to conserve, since various marine bird species feed on the fish there.



Salango Beach in Ecuador's Machalilla National Park. Image by Felipe Vallejo for Equilibrio Azul.

Fish fit for human consumption turned into fish meal

Ecuador has been producing fish meal since the 1960s. In fact, the country is one of the 10 largest producers of fish meal in the world. This is considered to be the second-most important fishing-related industry on a national level, just after the manufacturing of canned tuna. Globally, most fish meal is used in feeds for aquaculture, livestock or pets, and critics charge that its production [contributes to overfishing and degradation of the marine environment](#).

In Ecuador, fish meal must be produced according to an agreement the Ministry of Production issued in October 2019, which stated that it must make use of "only the surplus and waste that result from the processing of resources for direct human consumption."

However, fishers, experts and the reserve's own management plan claim this requirement is not being fulfilled and that fish that should be used for human consumption are sent directly to fish meal plants.





Dozens of newborn sea turtles head toward the ocean in Machalilla National Park. Image by Felipe Vallejo for Equilibrio Azul.

A fisher who accompanied Mongabay Latam on a trip through Puerto López, another fishing town whose waters are part of the Cantagallo-Machalilla Marine Reserve, said the industrial fishers capture fish like sardines beyond their processing capacity. This hinders the processing of the fish that are fit for human consumption. "When there are so many sardines that they can no longer filet them, they make fish meal, and that is illegal," the fisher said in a quiet voice.

A 2008 [analysis](#) of the fishing of small pelagic fish between 1981 and 2007 by the National Fisheries Institute of Ecuador warned of this problem: "The incursion of industrial ships has been reported in new areas that are not usually exploited (near the coast), with the excessive capture of other species traditionally destined for direct human consumption, as is the case with moonfish [*Selene peruviana*], bumper [*Chloroscombrus orqueta*], scad [*Decapterus macrosoma*], and others whose destination is the production of fishmeal."

Manuel Reyes, president of the Artisanal Fishing Production Cooperative (Cogaevismar) and secretary of the Union of Artisanal Fishers of Manabí, said the main problem is overfishing. He questioned the authorities for their lack of actions that would allow them to guarantee the persistence of fishing resources over the long term.

"Corruption prevails," Reyes said. "The vice minister of fishing, the regulatory entity, turns a deaf ear and biologists look the other way because they have been ordered not to say anything."



Fishers have to travel farther and farther in order to fish. Image by Yalilé Loaiza.

In an [article](#) published in April 2022 on the website of the National Chamber of Fisheries, economist Jimmy Anastacio analyzed the fish meal industry in Ecuador and made a case that aligns with Reyes' observations. "In particular, the ineffective management of the fishery for small pelagic fish (one of the main sources of raw material for the production of fish meal) during the current century created a disproportionate increase in the fleet authorized to fish for this resource ... and in the sites authorized for processing it, in addition to the increase in the illegal capture and processing along the coast, a situation that now affects the biological state of these stocks," Anastacio wrote.

The artisanal fishers have more and more evidence of this effect. "The fish within the eight [nautical] miles are diminishing because of illegal fishing. We all know this," said Reyes, explaining why fishers must go farther and farther to fish.

When Mongabay Latam asked the Ministry of the Environment about the actions it is taking to prevent illegal fishing within the first few nautical miles of the reserve, it answered that "in the marine patrols that we conduct as a protected area, no news of industrial fishing boats in areas within the limit of eight nautical miles has been reported or detected."

The approval of the Cantagallo-Machalilla Marine Reserve Management Plan is necessary to create a tool enabling protective actions against illegal fishing. This management plan, which is still awaiting approval from Ecuadorian authorities, will establish and regulate the areas where fishing activities can be carried out in the reserve. So long as the plan remains a draft, the Cantagallo-Machalilla Marine Reserve is at risk of becoming a reserve only on paper.

Banner image: Machalilla National Park in Puerto López, Ecuador. Image by Yalilé Loaiza.

This story was reported by Mongabay's Latam team and first published [here](#) on our [Latam site](#) on Oct. 17, 2022.

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