# Looking Beyond the Horizon: China's Intense Fishing Efforts Threaten Galápagos Islands and Global Seafood Supply Chain

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## Introduction

Located about 600 miles off the coast of Ecuador are the iconic Galápagos Islands, a chain of islands filled with abundant and diverse plant and animal life that have inspired countless scientists and explorers for centuries. The Galápagos, and the waters bordering this World Heritage Site, were designated as a marine protected area by Ecuador in 1998 to safeguard the unique and bountiful life surrounding these islands which serves as a source of income for both artisanal fishers and eco-tourism companies alike.[1,2] But this once-pristine environment faces many systemic stressors, including plastic pollution, oil spills, and illegal, unreported, and unregulated (IUU) fishing.[3] And when it comes to the latter, there is one country that targets the seas surrounding this idyllic paradise more than any other.

China's distant-water fishing (DWF) fleet, unmatched in size and effort, has consistently targeted the waters surrounding the Galápagos Islands for years. This intense and largely unregulated fishing activity can severely deplete fish populations and threaten global food security. Unregulated fishing refers to fishing activities that are not governed by any legal framework or that operate outside of established regulations. While not illegal, unregulated fishing can decimate entire populations of marine species because the activity occurs where there are no applicable management or conservation measures in place. In addition to these negative impacts, unregulated fishing gives bad actors an unfair advantage over fishers who must adhere to strict catch limits and other regulations. Vessels flagged to China frequently fish on the high seas and target many poorly regulated stocks such as squid.[4,5] China is by far the world's largest fishing nation, and based on Oceana's analysis, more than 11,000 vessels flagged to China operate on the high seas and in the exclusive economic zones (EEZs) of other countries. The country's fleet is bigger than the next four largest fishing countries combined (Table 1). China accounts for nearly half of the global fishing effort and appeared to fish more than 9.9 million hours outside of its own EEZ between January 1, 2021, and August 31, 2023. The behavior of this fleet is potentially suspicious and destructive because of its frequent disappearances — where vessels vanish from public tracking systems without a trace.

In the waters surrounding the Galápagos Islands, China's fishing activity surpasses all other countries. From January 1, 2021, to August 31, 2023, 510 Chinese vessels appeared to fish* for over 148,000 hours within 200 nautical miles (NM) of Ecuador's EEZ, primarily targeting squid. This snapshot of fishing activity continues to raise questions about the impact of this massive fishing armada on the high seas and on the nearby sensitive marine habitats like the Galápagos. Unregulated fishing poses significant threats to the ecosystem by depleting fish stocks, disrupting marine food chains, and damaging marine habitats.

The National Oceanic and Atmospheric Administration (NOAA) identified China for its fleet's engagement in IUU fishing practices between 2020 and 2022 in its most recent biennial report to U.S. Congress on international IUU fishing.[6] NOAA also identified China for its forced labor practices within China's vast array of fishing vessels that span the globe. According to the IUU Fishing Index, a tool that analyzes many countries' vulnerability, exposure, and responses to IUU fishing, China is continually ranked worst in the world due to its implications in violations related to overfishing, targeting endangered shark species, illegal intrusion of jurisdiction, false licensing and catch documentation, and forced labor.[4,5]

The Chinese government's ostensible efforts to combat overfishing by creating fishing bans on the high seas have also been criticized for being implemented in places where the fleet rarely fishes.[7] Since 2020, China self-imposed squid fishing bans for its DWF fleet near South American waters in a purported attempt to address overfishing. Oceana's analysis found that China appeared to fish only a combined 59 hours in the year preceding each ban. In concert with these conservation efforts focused more on publicity than conservation, China has thwarted actual efforts to promote responsible fisheries management at Regional Fishery Management Organizations (RFMOs). For example, as a member of the South Pacific Regional Fisheries Management Organization, China successfully blocked an attempt to improve protections for squid stocks on the high seas off South America.[8]

## Intense Fishing Effort

Using data from Global Fishing Watch (GFW)** — an independent nonprofit founded by Oceana in partnership with Google and SkyTruth — Oceana analyzed Automatic Identification System (AIS) data from fishing vessels found within 200 NM of the border of Ecuador's EEZ from January 1, 2021, to August 31, 2023. AIS is a vessel tracking system that transmits a vessel's location, behavior, and identity. AIS devices provide myriad information, including the name, unique vessel identifier, callsign, size, and flag size of a vessel, along with its speed, direction, and geographical position. AIS serves as the proverbial "eyes" of the boat, enabling vessels to "see" each other's location and activity. The data showed 510 unique Chinese vessels that appeared to fish within the study area, which was more than three times the number of vessels flagged to other nations that fished in the same area. A majority of those Chinese fishing vessels (479) were squid-fishing boats called squid jiggers, which appeared to fish for 134,000 hours during this time period. This concentration of vessels is about 69% of China's distant-water squid jigging fleet worldwide. Ecuador had the second-greatest visible fishing effort in the area but appeared to fish only 11,800 hours during the same time span. Compared to these other countries, vessels flagged to China made up about 75% of the vessels in the area during the two-and-a-half-year span and mostly occurred from June through September each year.

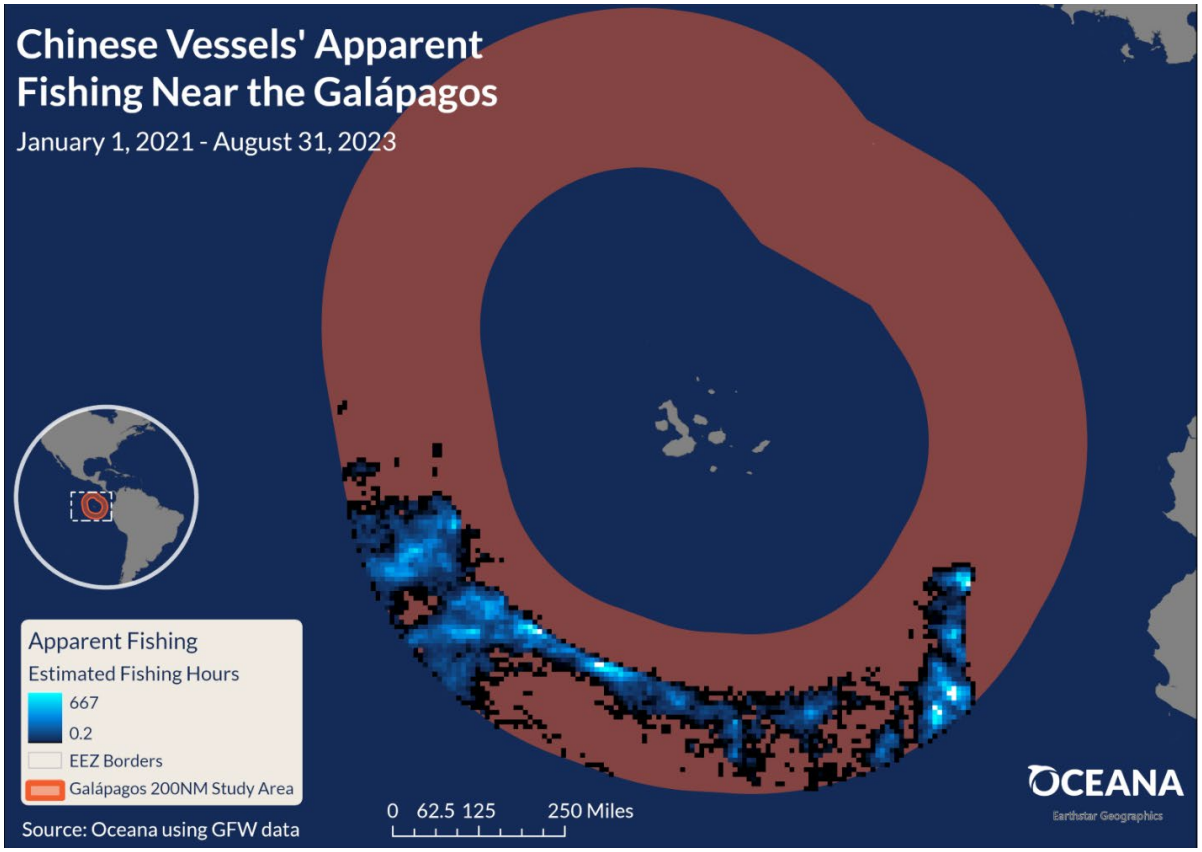
A total of 166 vessels flagged to Ecuador, Spain, Colombia, Venezuela, Mexico, and others also appeared to fish near Ecuador's EEZ surrounding the Galápagos for a combined 20,000 hours during the same time period. However, these vessels were largely targeting tuna, which is regulated by the Inter-American Tropical Tuna Commission (IATTC). IATTC is an RFMO that is responsible for the conservation and management of tuna and tuna-like species in the eastern Pacific Ocean and requires the use of specific gear and fishing techniques, electronic or human

monitoring, and other management measures to protect fish populations. This lies in stark contrast to the unregulated squid fisheries operating in this same region.[9]

**Table 1. Global estimate of distant-water fishing (DWF) fleet activity from January 1, 2021 to August 31, 2023 from Oceana's analysis**

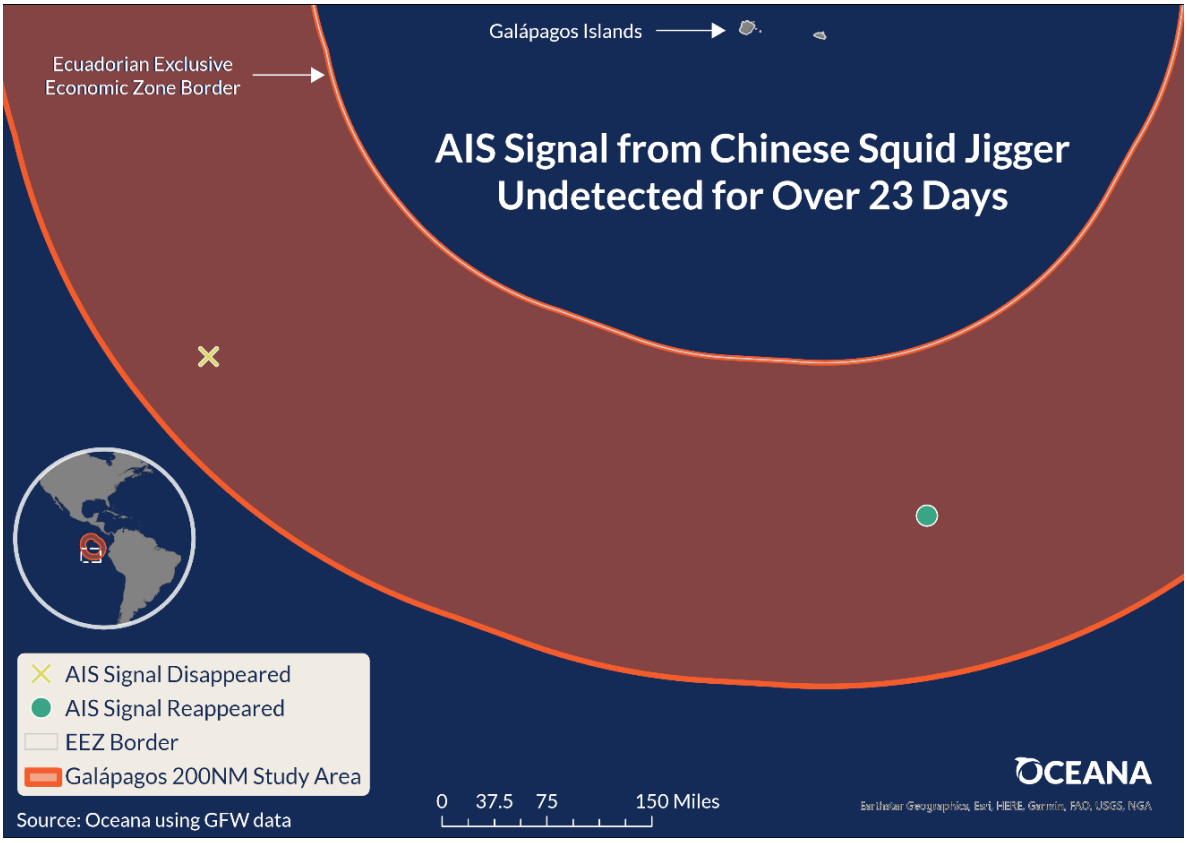
| Flag | Size of DWF Fleet (Vessels) | Fishing Hour* by all DWF Vessels | Size of DWF Squid Jigger Fleet (Vessels) | Fishing Hours by DWF Squid Jiggers |
|---|---|---|---|---|
| China | 11,124 | 9,900,000 | 694 | 1,900,000 |
| Taiwan | 1,995 | 4,800,000 | 95 | 65,000 |
| South Korea | 930 | 635,000 | 39 | 20,000 |
| United States | 904 | 344,000 | 0 | 0 |
| Japan | 724 | 1,160,000 | 44 | 29,000 |

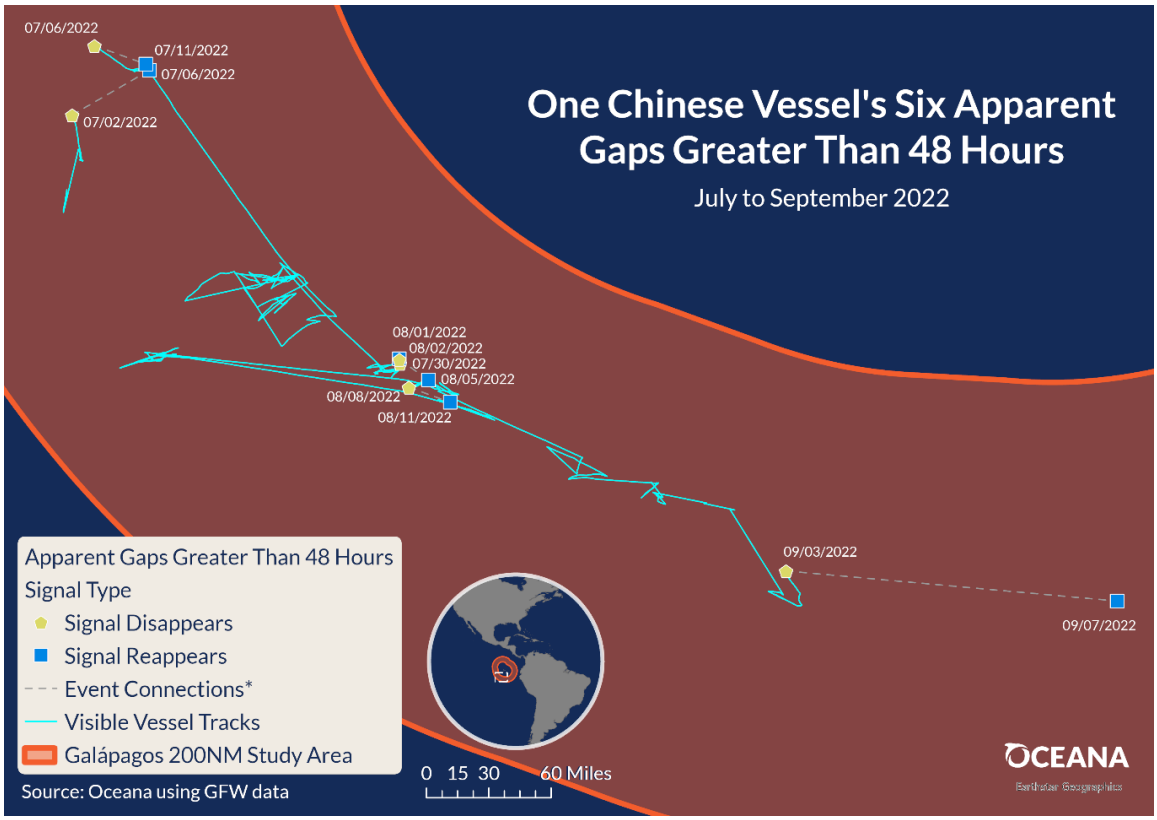
** DWF numbers are based on visible fishing vessels on GFW that appear to fish outside of their own EEZ on the high seas and in the EEZs of other nations.*



## Vessels Disappearing at Sea

When vessels disable their AIS devices, it can be an indicator of possible illegal behavior. Between January 1, 2021, to August 31, 2023, there were 53 vessels flagged to China that appeared to vanish at sea — or "go dark" — for nearly 27,000 hours near Ecuador's EEZ surrounding the Galápagos Islands. Of the other countries with vessels fishing in the area, Ecuador had the most vessels with apparent AIS gaps. While Spain and Panama had fewer vessels that appeared to disable their AIS devices, those countries' AIS gaps were of longer duration on average. The European Union requires that all vessels over 49 feet must continually broadcast AIS signals, so Spanish vessels must always have their AIS devices on, except when the safety of the vessel is at risk.[10] Twenty-four vessels flagged to Spain had numerous apparent gaps totaling over 35,000 hours in the study area. But while other countries' vessels went dark, none matched the size or scope of China's vanishing vessels in this area.





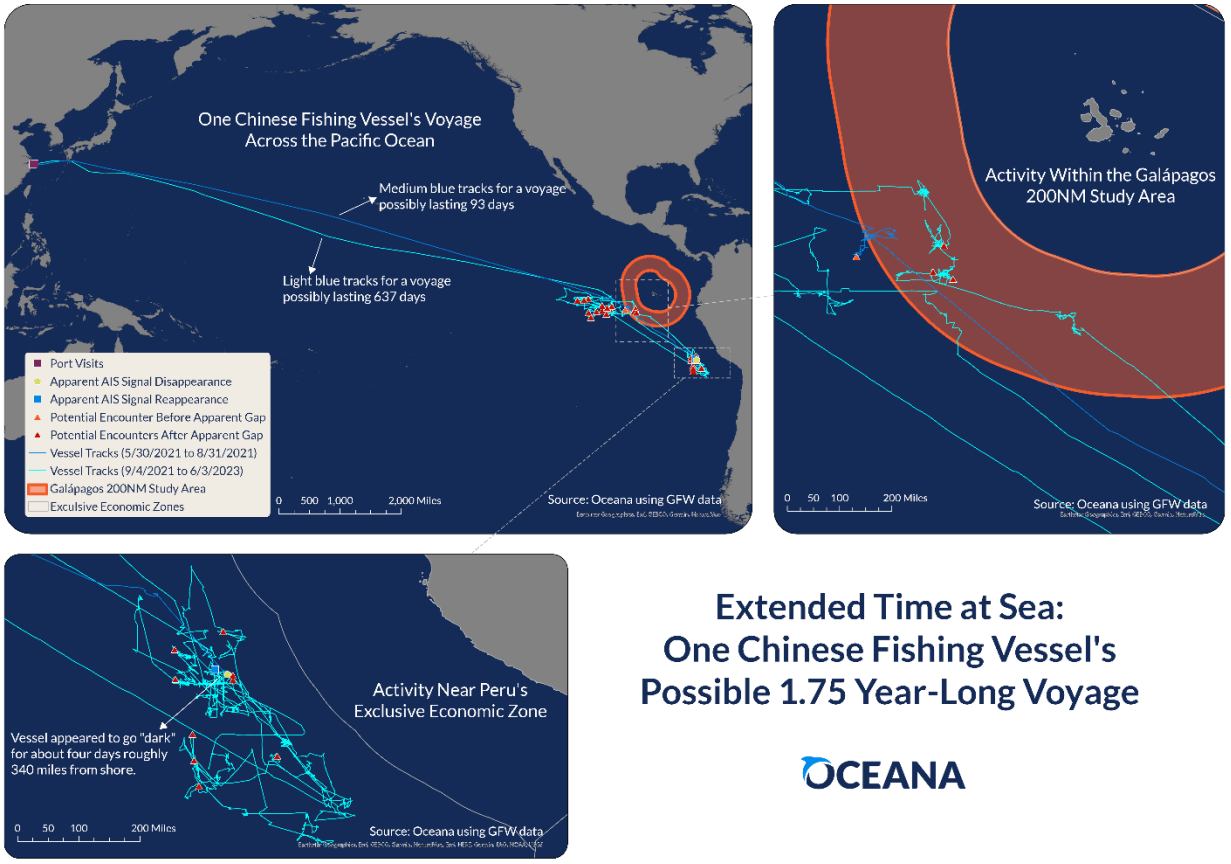

*=*Note that dotted lines only connect each event's start and end. The transit paths of this vessel between are unknown and not shown by these lines.*

## Port Visits

Vessels go to ports to offload their catches, get repairs, refuel, and exchange crew. Ports also provide a checkpoint where authorities can inspect vessel catch, observe crew, and see shipboard conditions. Extended time at sea is often a risk factor when trying to identify forced labor and other human rights abuses that might be occurring.[11,12]

But not every vessel goes into port. Many engage in a process called transshipment. During transshipment, fishing vessels meet with large, refrigerated carrier vessels known as reefers. During these encounters, the fishing vessel's catch is often offloaded before the vessel is refueled and resupplied, all while remaining at sea. Crew members can also be exchanged during transshipment events, which is cause for major concern around forced labor practices.[13] After these encounter events, fishing vessels can stay at sea even longer, with some not returning to port for more than a year.[14]

One Chinese squid jigger appeared to participate in multiple suspected transshipment encounter events that allowed it to stay out at sea for almost 637 days. This vessel had 25 potential encounter events with carrier vessels during that time period.




Approximately 95% of the Chinese vessels fishing near Ecuador's EEZ surrounding the Galápagos potentially engaged in an encounter event during their voyage. While almost 61% of those vessels were involved in potential encounter events in the immediate area of the Ecuadorian EEZ, many of these vessels also engaged in multiple encounter events outside of the study area, totaling nearly 6,500 potential encounter events. One Chinese fishing vessel was involved in six different potential encounter events near the border of the Ecuadorian EEZ surrounding the Galápagos. Carrier vessels that met with Chinese fishing vessels were flagged to Panama, China, Germany, Liberia, and Vanuatu. About 54% of the potential encounters involved carrier vessels flagged to Panama, and about 26% of the carrier vessels were flagged to China.

## As a Major Market State, the U.S. Can Do More to Combat IUU Fishing

The U.S. imports nearly 85% of the seafood we consume. The International Trade Commission found that an estimated $2.4 billion worth of IUU seafood products were imported in 2019 alone.[15,16] The Seafood Import Monitoring Program (SIMP), established in 2016, requires catch documentation and traceability for some seafood at risk of IUU fishing and seafood fraud. This information can help determine if seafood imports are from an authorized fishery and, if fully

implemented, allows the United States to keep IUU products out of the supply chain. However, at this time, only 13 species groups are covered by SIMP.[17]

Squid is not one of the species groups subject to the catch documentation and traceability requirements under SIMP. The squid caught near the Galápagos Islands, alongside squid processed in China from other parts of the world,[18] are undoubtedly imported into the United States as a part of China's massive seafood exports, or used as bait for other lucrative imported seafood like tuna.[19] Conservative estimates from an Oceana trade analysis put the U.S. import of squid sourced from China and Hong Kong over the past five years at more than 140 million kilograms, totaling more than $686 million.[20] NOAA recently identified China for IUU fishing and forced labor in its biennial report to Congress, yet seafood like squid and other products not covered by SIMP are entering the United States without catch documentation or traceability requirements. That means the products of IUU fishing and forced labor slipping through U.S. borders.[5]

Last December, NOAA proposed to expand SIMP to additional species, including squid. In an unexpected move that undermines SIMP expansion, NOAA decided to withdraw this proposal. The United States continues to be vulnerable to illicit seafood entering our borders and ending up on our plates.[15]

Oceana recommends that the United States improve seafood traceability by:

- Expanding the catch documentation and traceability requirements of SIMP to all seafood.
- Improving SIMP implementation by updating the data collected and tracked under the program to allow for better screening and enforcement.
- Extending traceability from the boat or farm to dinner plate and provide consumers with basic information about the seafood they purchase.
- Building mechanisms to address forced labor and other human rights abuses into SIMP.

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**Any and all references to "fishing" should be understood in the context of Global Fishing Watch's fishing detection algorithm, which is a best effort to determine "apparent fishing effort" based on vessel speed and direction data from the Automatic Identification System (AIS) collected via satellites and terrestrial receivers. As AIS data varies in completeness, accuracy and quality, and the fishing detection algorithm is a statistical estimate of apparent fishing activity, therefore it is possible that some fishing effort is not identified and conversely, that some fishing effort identified is not fishing. For these reasons, GFW qualifies all designations of vessel fishing effort, including synonyms of the term "fishing effort," such as "fishing" or "fishing activity," as "apparent," rather than certain. Any/all GFW information about "apparent fishing effort" should be considered an estimate and must be relied upon solely at your own risk. GFW is taking steps to make sure fishing effort designations are as accurate as possible.*

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