



**GLOBAL
INITIATIVE**
AGAINST TRANSNATIONAL
ORGANIZED CRIME

SEA OF CORTEZ

THE SOCIAL AND ENVIRONMENTAL
THREATS OF ORGANIZED CRIME

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INTRODUCTION

Until 2012, when the United States gradually began the regulation and decriminalization of marijuana, Mexican cartels had secured a decades-long monopoly on the US cannabis market.¹ As they became displaced from that market, the cartels scaled up their production of synthetic drugs, such as crystal methamphetamine, which is produced in clandestine laboratories that are generally set up in remote locations in the mountains, rural areas or small towns. The rich biodiversity that surrounds these sites is affected by the chemical waste resulting from crystal meth production that is dumped near these labs.²

In addition to the crystal meth market, Mexican organized crime groups also entered the black market in endangered marine species and industries built on other high-value species.³ Organized crime groups have begun to leave a significant environmental and social footprint, accelerating the disappearance of certain marine species and the disintegration of fishing communities.

One of the affected regions is the Sea of Cortez, also known as the Gulf of California, made up of the Mexican states of Baja California, Baja California Sur, Nayarit, Sinaloa and Sonora, which together contribute 11% of the country's gross domestic product⁴ and are united by the immense gulf of north-western Mexico, declared a world heritage site by UNESCO.

According to UNESCO, the Sea of Cortez comprises 244 islands, islets and coastal areas. It contains 695 vascular plant species and 891 types of fish, of which 90 are endemic. The number of plant species is much higher than those recorded at any other island or marine site on the World Heritage List. The region is home to 39% of the world's total number of marine mammal species and 33% of the global number of cetacean species.⁵ The region also contains a wealth of endangered land flora and fauna as well as examples of intangible cultural heritage, many of which come from the indigenous peoples of north-western Mexico, such as the Yaqui, the Cora and the Cucapá.⁶

This brief explores the threat that illicit economic activities pose to biodiversity and ecosystems in the Sea of Cortez region, as well as to some of the area's most vulnerable communities, those that depend on the fishing industry.

Methodology

To obtain data for this study, the author submitted 52 information requests to Mexico's public safety, health and law enforcement authorities. Information was also solicited from the Ministry of National Defence, the Ministry of Marine Affairs, the Public Prosecutor's Office and the Executive Secretariat of the National Public Security System.

Additional data was extracted from Mexico's Atlas de Localidades Pesqueras (Atlas of Fishing Sites) created by the country's Instituto Politécnico Nacional and Commission of Fisheries, and from UN Office on Drugs and Crime reports. Interviews were conducted in affected communities and with members of civil society organizations working in the region.



TOXIC WASTE

The environmental impact of the synthetic drugs market is primarily a result of the toxic waste generated during production in clandestine labs.⁷ According to Mexico's Ministry of National Defence, 974 such labs were dismantled in the region between 2012 and 2021.⁸ During that period, it is estimated that the labs dumped at least 1.6 million kilograms of toxic waste in the area surrounding the Sea of Cortez,⁹ posing a danger to people and the environment, as the waste can seep into any of the 174 aquifers in the region and cause considerable damage.¹⁰ The amount of waste dumped by these laboratories is the equivalent of nearly 2 kilograms for every one of the 2.8 million hectares of wetlands located in this region, which are vital for the planet's equilibrium.¹¹

These waste products are predominantly fuels and solvents, such as those used for household cleaning and vehicle maintenance. They include acetone, vehicle battery acid, brake fluid, wood varnish, ammonia and air-conditioning refrigerants. The products used to manufacture methamphetamine may also contain particles of lithium or mercury, which act as catalysts in chemical reactions.¹²



A clandestine laboratory in the rural area of Navolato, Sinaloa. In the past decade, nearly 1 000 laboratories have been found in the region. © Sinaloa Ministry of Public Safety

Most environmental crimes are addressed in Mexico's federal penal code. They are categorized into four areas: dangerous activities, harm to biodiversity, threats to biosecurity and crimes against environmental governance. The crimes can cover anything from spills of hazardous waste or other contaminants, to trafficking in flora and fauna, to the fishing of protected species. Four of every 10 of these crimes recorded in Mexico from 2012 to 2021 took place in the Sea of Cortez region.¹³

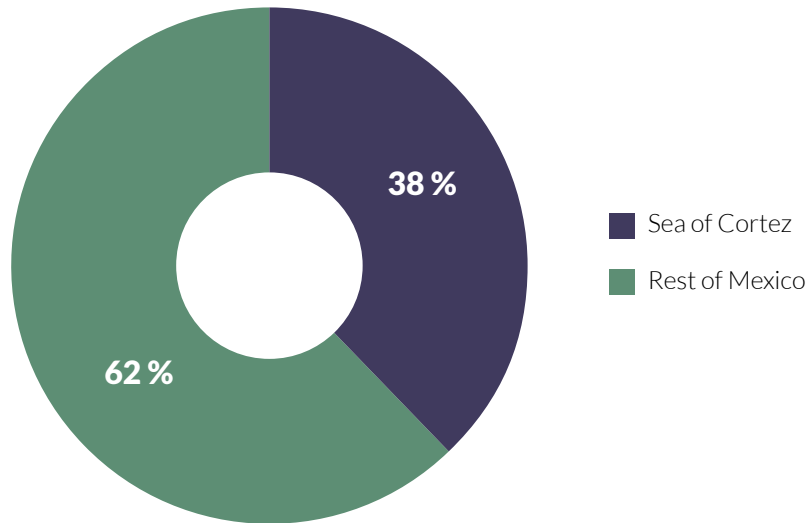


FIGURE 1 Environmental crimes in the Sea of Cortez compared to the rest of Mexico.

SOURCE: Mexico's Federal Prosecutor's Office for Environmental Protection

Baja California Sur registered 31% of the cases and Sinaloa 23%, highlighting that these two states alone have recorded over half (54%) of environmental crimes and crimes against environmental governance in the entire Sea of Cortez region. Baja California Sur has a significant illegal, unreported and unregulated fishing problem,¹⁴ whereas Sinaloa is the country's leading methamphetamine producer.

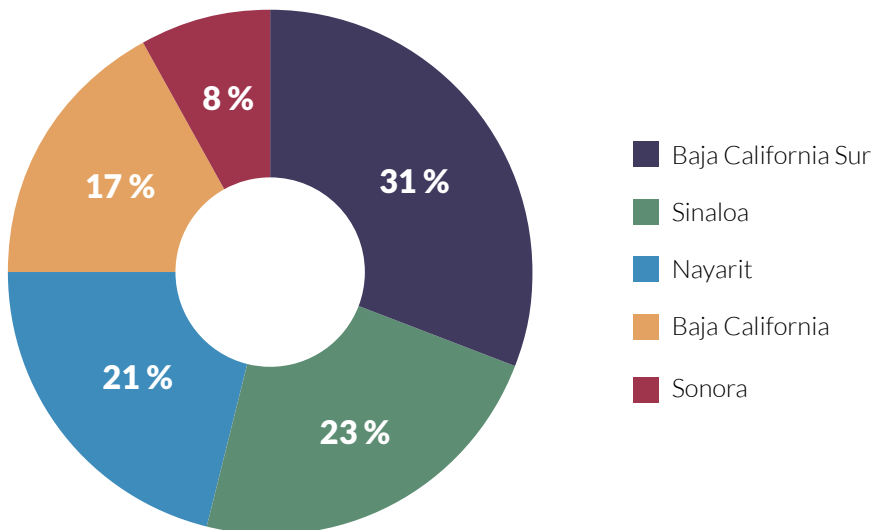


FIGURE 2 Environmental crimes in the Sea of Cortez by state, 2012-2021.

SOURCE: Mexico's Federal Prosecutor's Office for Environmental Protection



ILLEGAL FISHING

As mentioned above, the primary trade of Mexican organized crime groups in the second half of the 20th century was the smuggling of marijuana, heroin and cocaine to the United States. Today, however, organized crime groups have not only grown in number, they have also expanded their range of activities. Owing to the structure, logistics, labour force and weaponry they have amassed over the years, and the corruption and impunity they benefit from, their illicit activities have expanded to include illegal fishing of endangered species – such as the totoaba,¹⁵ the largest fish in the Upper Gulf of California – and others with a high market value that are captured at a number of sites in the region.

Criminal groups have also become illegal traders, imposing their prices on both fishers and fish processors, impacting the quality of life in fishing communities, as well as the industry and the region's biodiversity. In addition to carrying out illicit activities, organized crime groups seek to monopolize legal fishing companies along the entire supply chain.

As Vanda Felbab-Brown, director of the Initiative on Nonstate Armed Actors at the Brookings Institute, explains: 'Mexican organized crime groups set prices at which fishers can be compensated and restaurants get paid for the cartels' marine products. The criminal groups also force processing plants to process the fish brought in by the criminal groups. And they charge extortion fees to seafood exporters.'¹⁶ These criminal groups have taken over practically the entire value chain of the fishing industry in some regions of Baja California and Baja California Sur.

According to José Luis Carrillo Galaz, president of the Mexican Confederation of Fishing and Aquaculture Cooperatives, the incursion of organized crime in the fishing industry has already reached a point where it affects national security. Since around 2016, criminal groups have been involved in fishing activities, particularly in catching totoaba, shrimp and lobster, which have a high market value. 'The trade in lobster, abalone or totoaba swim bladder, which costs more than a kilo of cocaine, are now profitable activities that criminal groups go after,' Carrillo Galaz explained.¹⁷

Totoaba is a highly prized species in some Asian countries and in fine dining.¹⁸ The high demand has put its existence at risk, and organized crime has taken over the black market for this species. Alejandro Robles González, president of NOS Noroeste Sustentable, a civil society organization based in La Paz, Baja California Sur, confirmed that today, unlike in years past, totoaba fishing is a priority of criminal enterprises. 'Criminal groups get directly involved with a species, in this case, an endangered species, and take over trade in the totoaba swim bladder as an illegal product with a black market and a very high value,' said Robles González.¹⁹

Much like in their control over marijuana and poppy production in the Sierra Madre Occidental mountain range, organized crime groups initially pressured fishermen and women to sell them their products exclusively. They set the price, which tended to be lower than the market prices. Then they began to sell the species they were buying to the processing industry, using intimidation tactics to set prices. There has been no resistance. 'What I see as being different here is that they have taken over; they have monopolized the fishing resources,' Robles González said. 'They are the only ones who can buy and sell.'²⁰



Totoaba bladder for sale in Guangzhou, China. The high demand for this endemic Mexican species in Asian markets contributes to its overexploitation by organized crime groups. © Joanna Chiu/AFP via Getty Images



SOCIAL DECLINE IN FISHING COMMUNITIES

In addition to the environmental footprint left by methamphetamine production, and the effect of organized crime's takeover of the legal and illegal fishing markets, criminal groups have set their sights on local drug use, known as *narcomenudeo* or small-scale drug trade. Such drug use was already widespread in Mexico and now extends into the 1 668 fishing communities in the Sea of Cortez region.²¹

'It was when crystal meth began circulating that the number of addictions started to go up,' said Jorge, a businessman and fisherman in San Felipe, a municipality in Baja California, where the main economic activities are fishing and tourism. 'San Felipe had been a quiet place, and when people began consuming crystal meth, [other drugs] started coming in.'²²

According to data from the Mexican Ministry of Marine Affairs, the seizures of methamphetamine by the coastguard in 2012 remained in the range of between 12 and 16 kilograms in the vicinity of fishing communities in the five states of the Sea of Cortez. Beginning in 2018, the presence of methamphetamine became more pronounced, with larger and more regular seizures: a 100% increase that year. In 2019, 16 times more crystal meth was seized than the year before. In 2020, there was a drop of 9%, only for the number to quadruple in 2021.²³

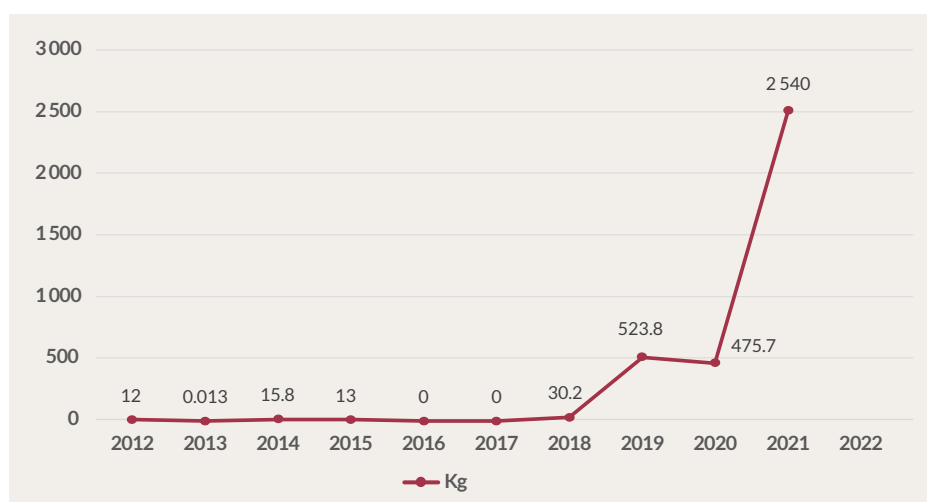


FIGURE 3 Seizures of methamphetamine along the coast of the Sea of Cortez, 2012–2022.

SOURCE: Coastguard data from Mexico's Ministry of Marine Affairs

Carlos, a businessman in Santa Clara, a community in Baja California, said that drug use is becoming more destructive. '[Drugs] are affecting fishermen because before, some fishermen used drugs, but they also worked. With these new drugs, the fishermen don't want to work; they're doing really badly,' he explained.²⁴

According to Robles González, fishing communities have experienced a process of decline in the last 40 years, becoming isolated and marginalized. Factors contributing to this decline are a sense of hopelessness among young people regarding their future and easy access to synthetic drugs. 'I think they start with drug addiction, and that leads them to other [criminal] activities, but they start out by consuming drugs,' he said.²⁵

This statement is confirmed by data from a number of groups in the Sea of Cortez region. The State Observatory for Addictions of the Government of Baja California reported in 2012 that methamphetamine was the drug with the third most significant impact in the entire state, behind alcohol and tobacco.²⁶ In 2016, it rose to first place as the primary drug affecting the state, followed by marijuana and heroin.

In the state of Nayarit, drug use increased from 2018 to 2021; during that period, the Ministry of Security and Civilian Protection reported that the number of people detained for using illicit substances tripled.²⁷ In Sonora, methamphetamine remained the drug with the most significant impact since 2014, when it was responsible for 54% of patients with an addiction, to 2021 when it reached 76%.²⁸

As methamphetamine use increases, the jurisdiction has also experienced significant upticks in crimes such as domestic violence, injuries, rapes and small-scale drug sales. In the fishing grounds of Sinaloa, for example, crimes that caused bodily harm increased by 99% from 2012 to 2021.²⁹ The small-scale drug trade multiplied almost sevenfold, forced disappearances increased 31%, domestic violence went up 51% and the number of rapes also doubled.³⁰



THE EMERGENCE OF COMMUNITY RESILIENCE

Since 2012, some communities have organized to care for the marine species currently under pressure by criminal enterprises involved in fishing activities.³¹ In La Paz, Baja California Sur, a number of fishing cooperatives developed the country's largest network of marine refuges, whose objective is to allow species to reproduce and rebuild the population.³²

Another example of community resilience, also in La Paz, can be found in the neighbourhood of El Manglito, which, along with NOS Noroeste Sustentable, developed a project to regenerate the population of the *callo de hacha* (*Atrina maura*), a scallop species that supports the local economy and has been overexploited throughout years of extraction by the community itself. The restoration project began in 2011 with the goals of restoring the ecosystem; recovering the species; evaluating and managing resources; developing legal, sustainable and high-quality products; and taking responsibility for and showing a commitment to caring for Ensenada, where El Manglito is located. This community formalized its work in 2016 by forming the civil society organization Pescadores Rescatando la Ensenada (Fishermen Rescuing Ensenada), made up of 109 members, including 22 women and 87 men, in addition to 15 cooperatives and 10 independent fishermen.

Finally, in Altata, Sinaloa, in 2017 three fishing cooperatives were formed, the first ever made up of women: Las Almajeras de Santa Cruz, Las Lobas del Manglar and Las Banas Guerreras. With the support of international organizations, they focus on gender issues in working to regenerate the squalid callista clam population.³³

Despite this exemplary work, community resilience has not yet reached the magnitude to counter the consequences of organized crime. According to Robles González, communities are in a downward spiral, unable to create projects to support resilience, rebuild the population of affected species or advance any other activity that would help them heal. 'It takes a lot, not just in terms of organizing, but financially, and today there aren't solid support programmes that allow communities to do that. They can have the intention of doing it, but the technical capacity and support to follow through are lacking,' he explained.³⁴



RECOMMENDATIONS

The decline of ecosystems in the Sea of Cortez is closely related to the illicit activities by organized crime groups in the region. For this reason, organized crime cannot continue to be viewed with a sole focus on policing and enforcement, which neglects its social and environmental impacts. Proactive steps must be taken to mitigate the damage as much as possible. Not addressing the issue today means leaving a larger problem for future generations. What follows is a series of recommendations for the federal and state governments to mitigate the impact of organized crime on the ecosystems of the Sea of Cortez.

- **Take proactive steps against environmental crime.** Damage to biodiversity and ecosystems puts human survival at risk. The federal and state governments should proactively prevent environmental crimes from spiralling out of control and ensure the sustainability of food sources for this and future generations.
- **Create a specialized, shared agenda to respond to this threat.** The governments of Baja California, Baja California Sur, Nayarit, Sinaloa and Sonora should cooperate to protect the Sea of Cortez's biodiversity and ecosystems, providing financial, scientific and technical resources and labour.
- **Stop the spillage of toxic waste** from laboratories producing synthetic drugs, adding chemical-forensic specialists and cleaning and decontamination protocols to police operations.
- **Prioritize protecting the safety of the populations** and the integrity of fishing communities around the fishing grounds of the Sea of Cortez.
- **Carry out an assessment of individual and community health** around the fishing grounds in the region to reverse the harm caused to victims.
- **Create programmes to regenerate species or marine refuges** so that fishing communities, with technical and financial assistance, can develop other economic activities and allow species to repopulate.
- **Reduce criminals' market share.** Governments should address the small-scale drug trade through public policy and strategic actions, viewing it as an economic activity based on supply and demand, so that public safety authorities can work alongside the health care system to address drug use.
- **Generate intelligence.** Mexico and its 32 states require an efficient and standardized information system on addiction. Unlike the advancements in monitoring criminal activity in the country's National Public Security System, the data and breakdown of people suffering from addiction are not systematized. So long as the Mexican state does not have clear, precise intelligence, there is little it can do to crack down on demand in the small-scale drug market.

- **Activate an alert on the small-scale drug trade.** States should activate an alert regarding the significant small-scale drug trade in their territories. Mexican legislation makes it the responsibility of state authorities to counter this trade.
- **Strengthen institutional capabilities to target supply.** States should strengthen the capacity of institutions to combat the small-scale drug trade with larger budgets, investigative agents and material and technological resources.
- **Strengthen institutional capabilities to drive down demand.** The federal and state governments should fortify the workforce; the material, technological and scientific resources; and the infrastructure to prevent and treat addiction.



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