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# SUSTAINABLE FISHERIES REVIEW

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## Fish Guts Drive International Crime Syndicate



Photo Credit: Procuraduría Federal de Protección al Ambiente (PROFEPA)

Drug deals, crime bosses, and international smuggling are at the center of current popular culture. In a typical drug deal scene, two crime syndicates meet in a dark room. One side brings the money and the other brings the goods. Armed guards stand at the door and watch out for competition or law enforcement. Briefcases slam on the table. One has \$80,000 USD in it, while the other...stinks like fish. This may not be what you're used to watching on a Tuesday night, but maybe it should be.

The Sinaloa Cartel in Mexico is one of the most influential drug trafficking organizations in the world. The infamous former leader, Joaquin “El Chapo” Guzman, was once the world’s most wanted man. While the cartel is well known for its role in drug and human trafficking, they are also responsible for smuggling valuable swim bladders from a fish found only in the Gulf of California.

[The totoaba is a large and powerful fish that can reach 2 meters and live 30 years.](#) Despite a 50-year ban on fishing and trade in Mexico, it is still heavily poached for its swim bladder, or maw, prized in Chinese cuisine for supposed health benefits. A kilogram of maw can sell for up to \$80,000 USD — worth more than rhino horn, elephant ivory, or even cocaine.

If you were a totoaba, you would likely be swimming along a sandy bottom in the Gulf of California, enjoying a sardine, when you enter into this international crime ring.

Your first stop would be into the black hole of fishing devices that is a gillnet. Gillnets are indiscriminate fishing devices set where a target species is likely to swim. Think of it like a giant sticky fly trap, existing to entrap whatever rests on its adhesive.

The fisherman would sell you to their trader; a member of one of Mexico’s famous cartels. This trader would sell you to some end market destination. Here, your maw would be dried and distributed. The rarity, lack of competition, smuggling difficulties, and illegality of this organ, turn offal into gold. ‘Conspicuous consumption’ is a term normally used for luxury products purchased for social status — never would you consider fish guts to be flaunted on a neck or wrist.

Solutions range from anti-trawling devices made of construction materials to increased raids on exported goods. Recently, aquaculture has emerged as a solution to save the totoaba and eliminate a major income stream from Mexican cartels. Due to their high reproductive capabilities, totoaba farms exist today. “If you went to Mexico City, you could get totoaba ceviche,” said Julia Lawson, a doctor who earned her PhD at the Bren School of Environmental Science and Management. “We suggest that a market-based solution, namely aquaculture, may be better suited to curb poaching pressure than a strictly regulatory approach.”

Lawson and her lab, [subsequently reported on by the UCSB current](#), explored the possibility of the Mexican government subsidizing legal totoaba farming facilities to promote competition in the market. They projected two scenarios of totoaba farming where Mexican cartels could lose between \$192 million and \$310 million USD in a year. The entire GDP of the Marshall Islands is around \$310 million — a nation of thousands.

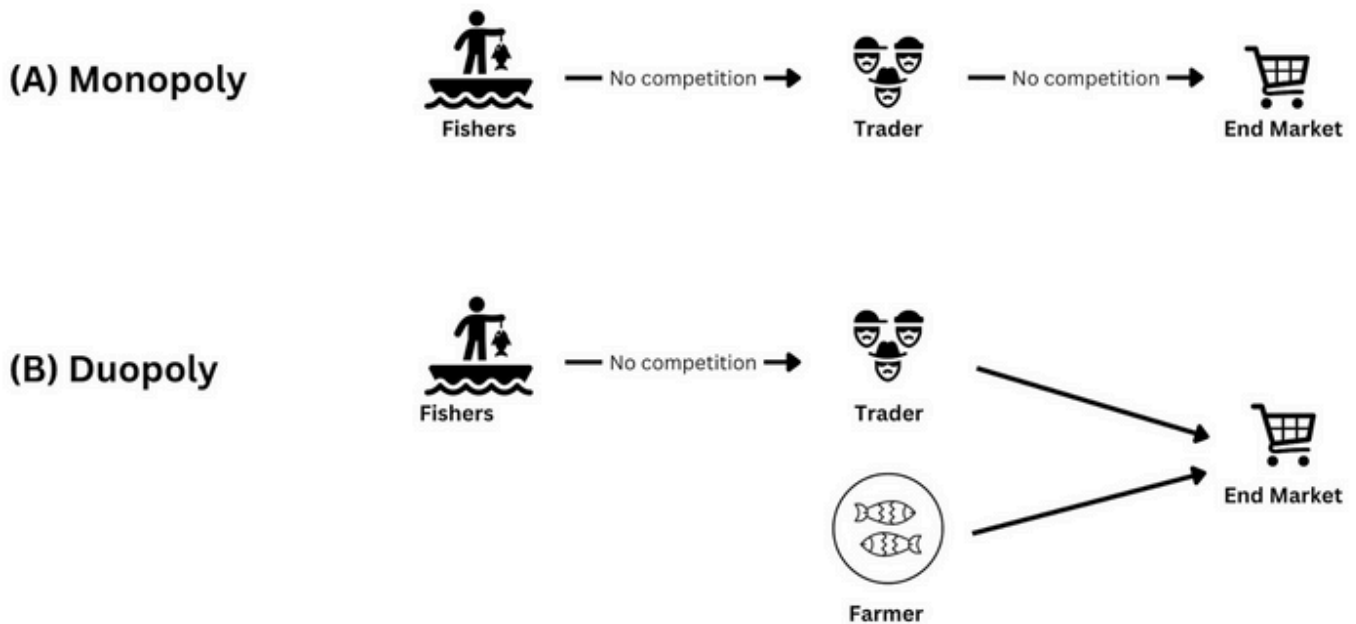


Fig 1: Lawson’s breakdown of farmed totoaba into the illegal totoaba trade, resulting in increased competition.

[Lawson explored how conservation aquaculture can reduce poaching](#). First, farming must be cheap, and poaching must be seen as fruitless. Gillnets, unlike traditional poaching methods, are extremely expensive and already pose a challenge to poaching fishermen. The Mexican government is subsidizing totoaba farming \$6 million USD annually; it sounds like we are on the right track.

Consumers must also view farmed products as superior to wild products. If the market views farmed products as inferior, such as a fake Gucci bag with the wrong serial code, then the farmed totoaba will only create a parallel market where poached totoaba will still fetch high prices. AgroParisTech, a French university, is researching this exact scenario.


Lawson says that “the success of legal aquaculture also requires demand to remain relatively stable or increase only slightly.” If demand increases too much, above 20%, then prices could be reduced,

availability increased, and the stigma surrounding poached totoaba dropped. A conundrum that would cause failure of the aquaculture proposal.

With cartels being known for extortion, what would happen if totoaba farming were taken over by the cartel? “...it produces even better results for totoaba than what we had first anticipated because they can leverage the whole farming operation,” said Simon Jean, a co-author from AgroParisTech. Jean and Lawson both agree that their proposal to switch to a farmed totoaba economy would require careful planning. They make a strong case for policy reform rather than simply increasing poaching checks in harbors — A strategy that has not worked for 50 years.

My idea of the future of totoaba is clear — When that briefcase is flipped over and some scrutinizing crime boss inspects its fishy contents, I hope that they ask, “Is this maw wild caught or farmed?”

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