



Risky business

How Peru's wildlife markets are putting animals and people at risk

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Risky business: How Peru's wildlife markets are putting animals and people at risk

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Cover image: Jaguar and ocelot skins at Belén market. Derivatives of the jaguar are reportedly the most expensive items sold at Belén market. Capture methods cause intense animal suffering, with hunters sometimes using multiple gunshots to kill jaguar, leading to a protracted and painful death. **Credit:** World Animal Protection



Photo: Deer meat intended for commercial sale. **Credit:** Fernando Carniel Machado / World Animal Protection

Executive summary

The global wildlife trade is a multibillion-dollar industry that effects around a quarter of all terrestrial vertebrates found on Earth.¹ The trade in wildlife for exotic pets, luxury goods, entertainment, and traditional medicine is now so substantial that it represents one of the most prominent drivers of species extinction risk globally.²

Belén market, located in Iquitos the capital city of Peru's Loreto Region, is considered the largest and most important open market selling wildlife in the Peruvian Amazon.³ The commercial trade in wild animals at urban markets, such as Belén, is illegal in Peru (Law No 29763). However, wildlife trade is poorly monitored and practiced openly.^{4,5}

Before COVID-19, Belén market traded in a wide variety of wildlife products from the Amazon rainforest. Research based on field work from 2019 and published in 2021,⁴ estimated that more than 200 different species of wild mammals, reptiles and birds were caught up in the trade. Animals traded included jaguars, primates, sloths, river dolphins, manatees, turtles, macaws,

snakes and capybaras. This trade can have devastating impacts on species' survival and animal welfare. It is likely that each animal on sale at the market would have suffered to some degree, either during capture, transportation or slaughter.⁶

Belén market closed for much of 2020 and 2021 in response to COVID-19, but recent intelligence reports highlighted the resumption of trade. So, World Animal Protection investigators revisited Belén and other smaller satellite markets in Iquitos during August and September 2021 to assess the post-COVID-19 status of illegal wildlife trade activity.

They confirmed the reopening of Belén market and wildlife illegally and openly sold to domestic urban consumers across several parts of the market. They observed wild animals sold live – often for exotic pets – and dead with their body parts on sale for use as wild meat, decoration and traditional medicine. The images and footage collected show deer and caiman meat, ocelot heads, anaconda skins and live parrots on sale.

Wildlife trade is largely driven by domestic urban luxury consumer demand in Iquitos. However, there are concerns that Peru is influenced by international wildlife traders and consumer demand for wildlife in other G20 countries. For example, in Brazil there is demand for river turtles, fish, and live song birds^{7,8} and in China there is demand for jaguar body parts for use as traditional medicine.⁹ Enforcement of wildlife trade regulations is very difficult to implement in the light of such demand.^{7,10} This is because strong laws and enforcement efforts in “front-line source countries” such as Peru mean little if they are not supported by other consuming countries.

The United Nations Head of Biodiversity advised in April 2020 that; “countries should move to prevent future pandemics by banning markets that sell live and dead wild animals for human consumption.”¹¹ And, in April this year (2021) the World Health Organisation released guidance for ‘reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets.’¹²

Our investigators confirmed the implementation of some measures. Such implementation is presumably partly through collaboration with the United Nations Development Program (UNDP) (since 2015),¹³ to improve market services and hygiene conditions in some Belén market sections. However, there are concerns that these lack specific steps to help prevent illegal wildlife trade at Belén market.

Specific steps necessary to safeguard wild animal welfare, conserve wild populations, and to help properly protect public health are: increased enforcement of existing laws prohibiting wildlife trade at urban markets in Peru, campaigns to raise public awareness of the risks (public health, animal welfare, and conservation) and legal ramifications of illegal wildlife trade activity, identifying alternative humane sustainable sources of income for those currently economically dependent on wildlife trade, and collaboration between nations worldwide to put an end to international consumer demand for commercial wildlife trade purposes.

Photo: Yellow-footed tortoise meat intended for commercial sale. A wide diversity of animals across taxonomic classes are being sold as wild meat at the Belén market, including many reptile species such as the yellow-footed tortoise. Vendors commonly receive live tortoises that they slaughter themselves and sell on the market stalls.. **Credit:** World Animal Protection



Photo: Caiman head intended for commercial sale. Caiman are sold as wild meat, and for decorative and medicinal use. The preserved and decorated heads are sold as amulets for protection and prosperity and are also used to draw the attention and curiosity of passers-by.
Credit: Fernando Carniel Machado / World Animal Protection





Photo: Densely populated market area. Credit: World Animal Protection

Background

Markets selling live wild animals and their derivatives in open-air environments, with little or no appropriate health safety precautions or sanitation measures, feature across the world. They are particularly common in the high-density human population centres of Latin America, Africa and Asia.¹² In these markets, wild animals such as bats, carnivores, birds, reptiles and primates, are often traded and kept in close contact with each other. This creates the perfect conditions for zoonotic emerging infectious diseases such as COVID-19 to emerge and spread among animals and people.¹⁴

The risk of zoonotic disease emergence is particularly heightened in situations when wild animals have suffered poor welfare and hygiene conditions. Conditions such as being packed in overcrowded dirty cages in close proximity to other species which compromise their immune systems and promote disease transmission.¹⁵

The COVID-19 pandemic, thought to have originated from the trade in wildlife,^{16,17} has shone a stark light on the risks posed by wildlife markets. The outbreak has inflicted unparalleled global social and economic damage – hitting the global economy by an

estimated US\$1 trillion¹⁸ and resulting in more than four million human deaths to date.¹⁹ In response, major policy decisions involving wildlife trade bans ensued; China banned the consumption of wild animals for food to safeguard people's lives and health.^{20,21} Vietnam launched a new taskforce committed to reforming policies to prohibit the commercial trade and consumption of wild birds and mammals.²²

Internationally, the United Nations Head of Biodiversity advised in April 2020 that, "countries should move to prevent future pandemics by banning markets that sell live and dead wild animals for human consumption."¹¹ And, in April this year the World Health Organisation released guidance for 'reducing public health risks associated with the sale of live wild animals of mammalian species in traditional food markets.'¹² More widely, there have been calls for similar action to be applied across the trade chain.^{23,24}

But the actual implementation of these actions remains uncertain. There have been reports of wildlife markets reopening or continuing to operate in some countries.²⁵



Photo: Giant redtail catfish being carried in the middle of market thoroughfare.
Credit: World Animal Protection



Photo: Wild animal derivatives on sale for spiritual and medicinal purposes, including black caiman, iguana, tortoise, and boa. The Endangered Amazon river dolphin's sexual organs and eyes are sold as belief-based ingredients to create an aphrodisiacal perfume called "pusanga" which is thought to bring luck, ensure seduction or neutralise it when its misuse has caused harm. **Credit:** World Animal Protection

Wildlife trade pre-COVID-19

Belén Market, Iquitos, Peru

In terms of its wildlife, Peru is a mega-diverse nation²⁶ and an important wildlife trade hotspot in the Latin America region.²⁷ Wildlife trade in Peru involves numerous species across taxonomic groups, including amphibians, birds, invertebrates, reptiles, and mammals.²⁸⁻³¹

Belén market, in Iquitos, is considered the largest and most important open market selling wildlife in the Peruvian Amazon.³² It trades in a wide variety of wildlife products captured from the surrounding rainforest.^{4,32}

The exploitation of wild animals for their meat is the most common use of wildlife in Peru.³³ However, wildlife also provides the raw materials for zootherapeutic remedies and for use in magic-religious rituals as amulets and charms.³⁴ In comparison, the exploitation of wild animals as exotic pets is considered to represent a smaller component of the wider wildlife commerce. Yet, a thriving market – both domestic and international – persists.²⁹

Species in this region are sought by collectors around the world – Peru is the world's largest exporter of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) listed live reptiles.³⁵ Another relatively small, yet substantial, fraction of Peru's wildlife commerce is directed towards tourists who purchase animal derivatives,³³ or pose with wild animals for photographs as souvenirs.³⁶

However, despite any potential benefits of the trade to people, it can cause many problems for animal welfare, species' survival and public health.^{8,37}

For example, there are clear conservation risks. Unsustainable hunting threatens both the survival of some wild species and the financial income of the region's poorest citizens in the long-term. The trade of wild meat to supply urban markets is considered an on-going major issue of concern.⁸ In particular, the increase in wild animals being killed for meat has been linked to a greater commitment by indigenous and rural populations to supply city markets. This has fuelled greater demand for "luxury" wildlife products in urban areas.³²

There are also substantial consequences for wild animal welfare. Potential for suffering exists at each stage of the trade chain, including capture, captive breeding, transport, slaughter or private ownership.⁶ This, in turn, poses a risk to public health, particularly in situations where wild animals have endured debilitating conditions that compromise their immune systems and that promote zoonotic disease transmission.¹⁵ For example, poor sanitation conditions in and around markets in Iquitos, large numbers of visitors and the huge diversity of wildlife products pose serious public health concerns and zoonotic disease risks.

Although the commercial trade in wild animals at urban markets, such as Belén, is illegal in Peru (Law No 29763), the trade is poorly monitored and practiced openly.⁴ In particular, there are reports of a new wave of illegal trade in jaguars linked to Chinese demand for their teeth.^{10,38,39}

Research suggests that government authorities lack sufficient staff, capacity, resources, infrastructure, and protocols to efficiently combat illegal wildlife trade in Peru.^{10,32} Furthermore, the complicated legal framework and lack of public awareness initiatives focussed on changing consumer behaviour are also believed to be responsible. The result is a lack of cooperation among wildlife vendors and lack of awareness regarding the risks and negative impacts with the wider public, which further limits enforcement efforts.³²

A scientific survey of illegal wildlife trade

Before COVID-19, Belén market traded in a wide variety of Amazon rainforest wildlife products. For example, 2019 research into the scale and diversity of wildlife trade at Belén,⁴ estimated more than 200 different species of wild mammals, reptiles and birds caught up in this trade. These included jaguars, primates, sloths, river dolphins, manatees, turtles, macaws, snakes and capybaras.

Interviews with around 100 wildlife vendors revealed that wild animals were most commonly sold at the urban markets as wild meat, but also as luxury pets, and for spiritual, medicinal, and decorative use. Jaguar derivatives were reportedly the most expensive items sold by the market vendors.

Some of the most frequently identified animal derivatives sold as wild meat were mammal species, such as lowland paca and collared peccary. However, beyond mammals, a wide diversity of other animals were also sold as wild meat, including many reptile species.

There are serious conservation concerns associated with this type of wildlife trade in Peru. According to the IUCN Red List, around 9% of wild animals sold at Belén market in 2019 were threatened with extinction; 35% had declining populations in the wild.⁴ Research also suggests that the most profitable species sold were those that are becoming increasingly rare.

The Amazon river dolphin, for example, which is categorised as Endangered by the IUCN Red List, has been identified as a particularly profitable wild animal that is sold at Belén market for

traditional belief-based use remedies. The dolphin's sexual organs and eyes are sold as ingredients to create an aphrodisiacal perfume called "pusanga". The perfume is thought to bring luck, ensure seduction or neutralise its effects when its misuse has caused harm.

The common boa and caiman were also frequently identified as profitable belief-based-use items. The preserved and decorated heads of both (and juveniles of the latter) are sold as amulets for protection and prosperity. Live wild animals such as parrots, primates (including howler monkeys and squirrel monkeys), sloths, agouti, caiman, and snakes were also reported as openly sold at Belén market. They were sold most frequently as exotic pets but also as wild meat.

Researchers also observed slaughter methods (e.g. decapitated snakes) and captive conditions (e.g. small barren dirty cages, cloth bags and plastic buckets) that raised substantial animal welfare concerns. Inhumane capture methods of wild animals have previously been documented in the Amazon region. These include the use of harpoons to capture Amazon river dolphins, tree felling to aid the collection of live sloths, and multiple gun shots to kill jaguars.⁴⁰⁻⁴²

Photo: Decapitated snake head at Belén market, raising substantial animal welfare concerns about the slaughter methods of the wild animals on sale.

Credit: World Animal Protection



Figure 1: List of species reportedly sold by around 100 wildlife vendors interviewed at Belén market. Shown is the frequency each species was mentioned across all vendors interviewed.⁴

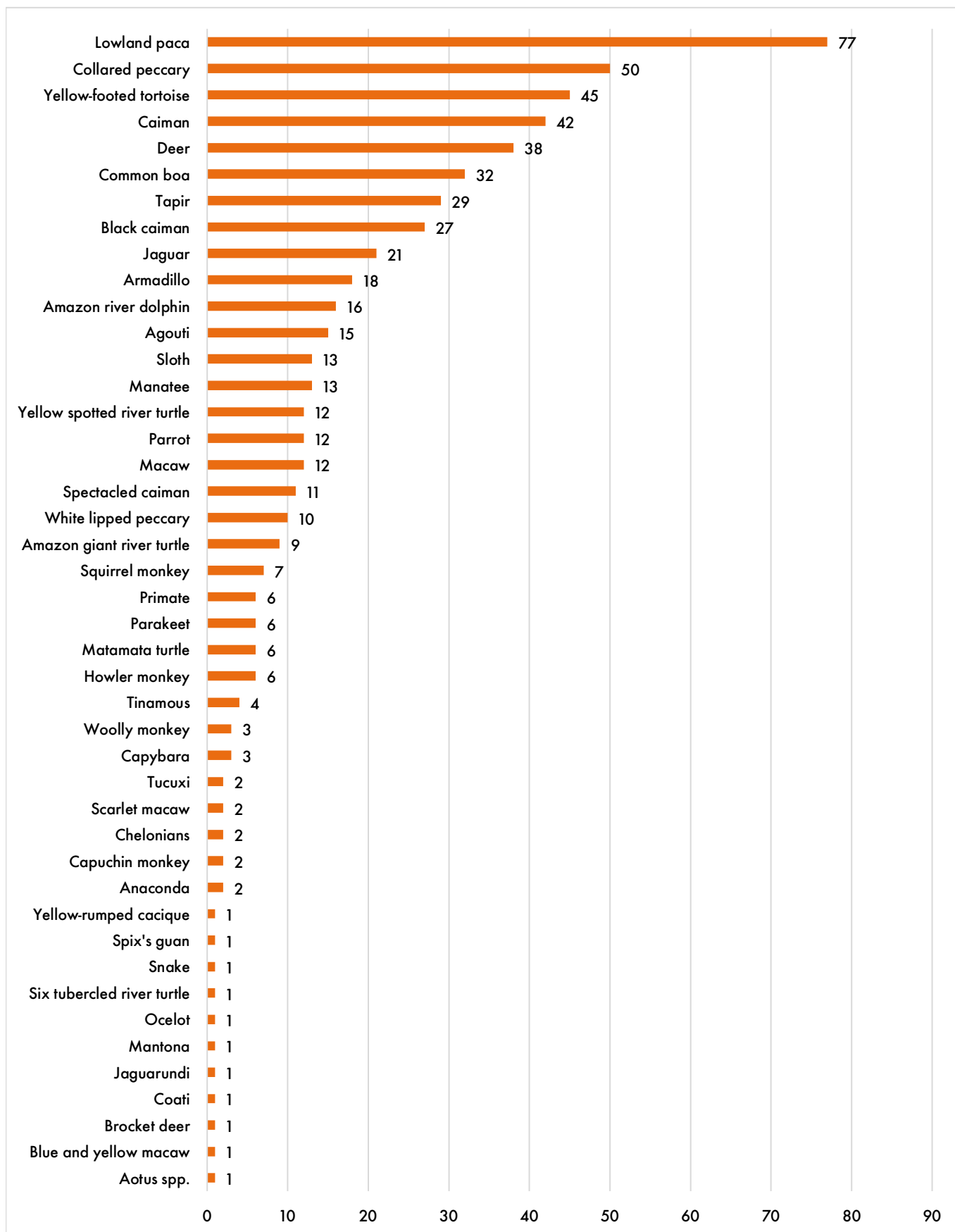


Figure 2: Frequency each species was cited by wildlife vendors across the three main survey questions – “Most profitable animal part”, “Species becoming rare or unavailable” and “Most profitable live animal”.⁴

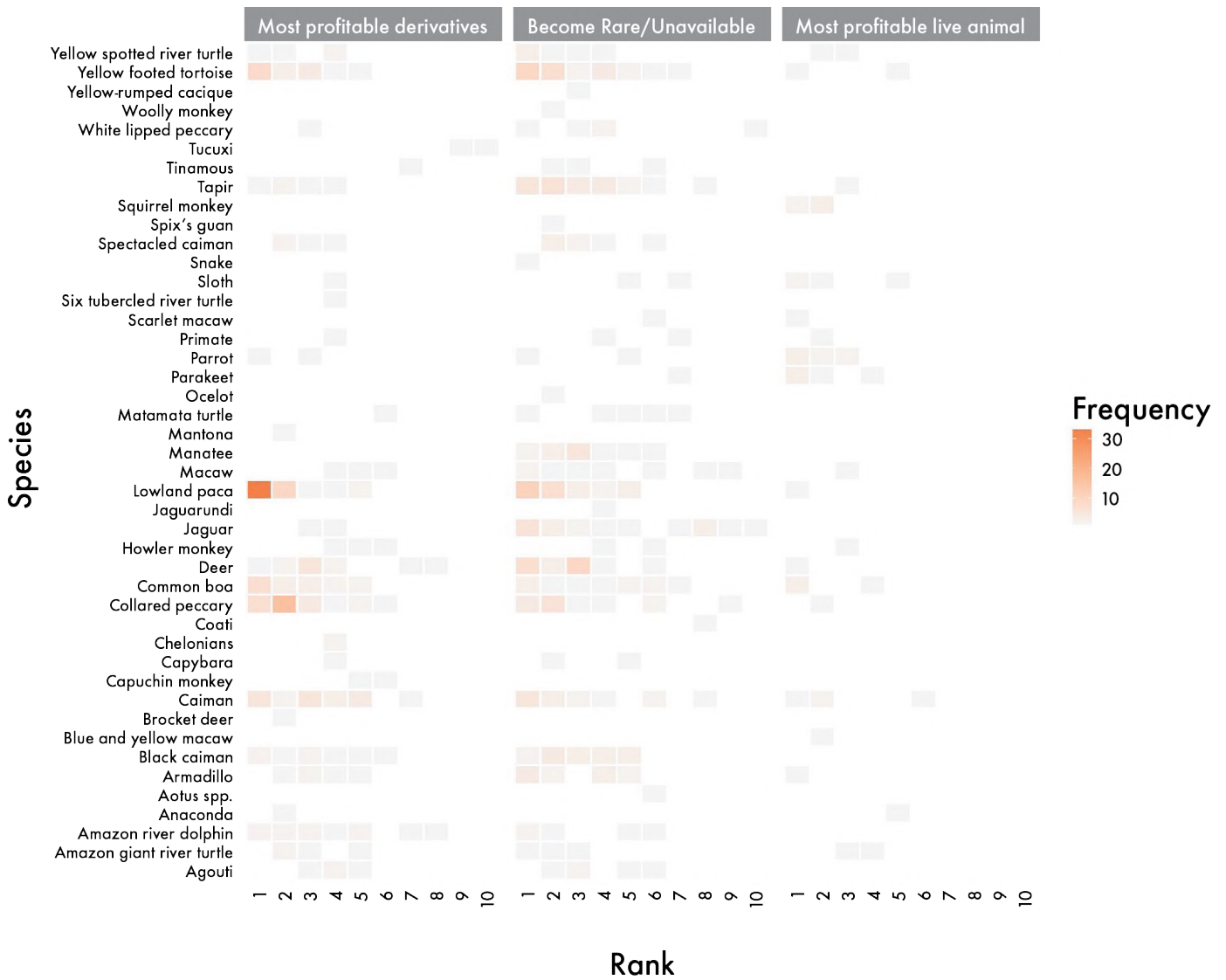
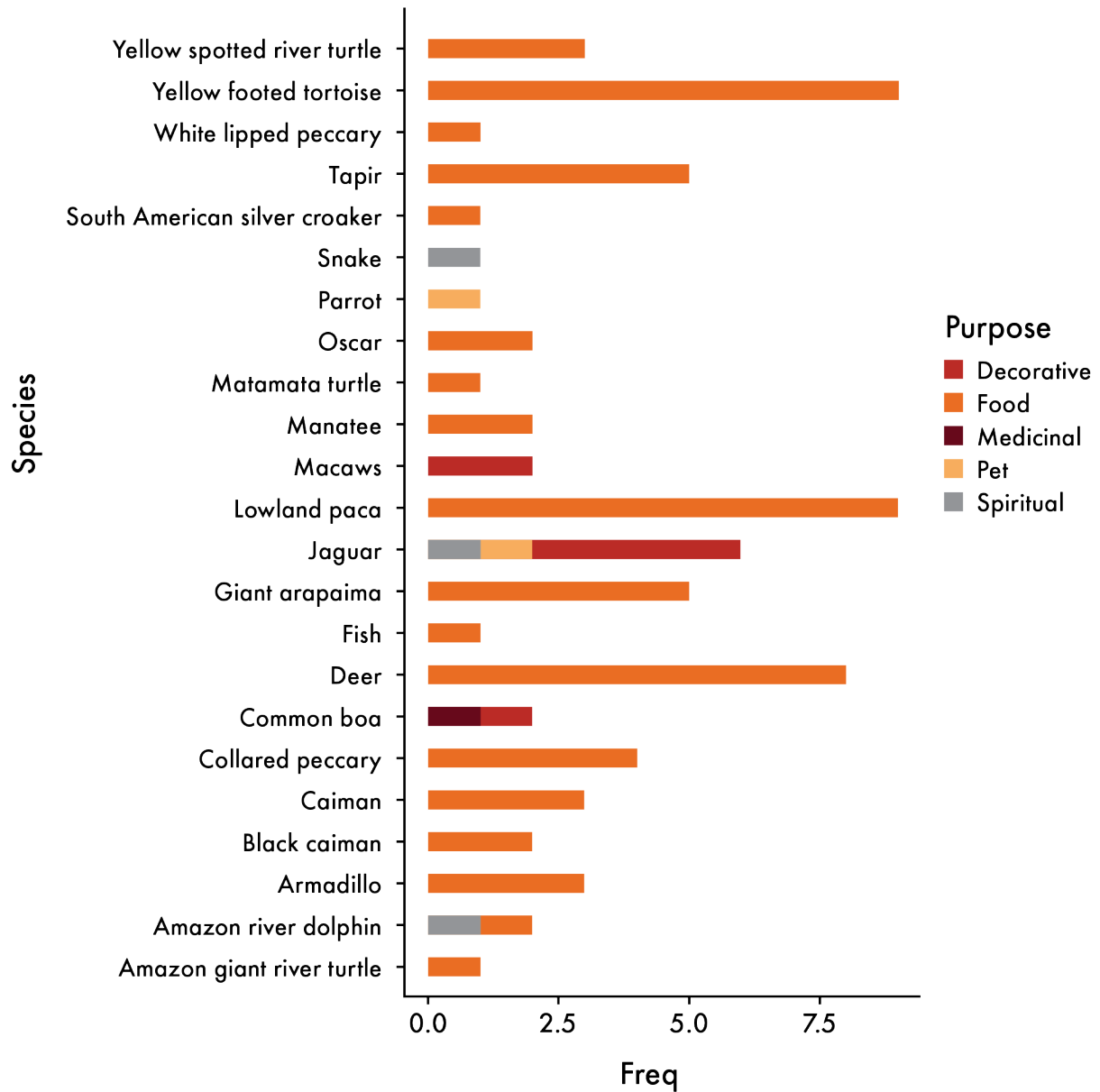


Figure 3: List of species that have become rare or unavailable in the past five years from the perspective of around 100 wildlife vendors interviewed at Belén market. Shown is the frequency each species was mentioned across all vendors interviewed, and the reported purpose that species are sold for at the market.⁴



International illegal wildlife trade

Recent research also reports that some wild animals sold at urban markets in Peru were transported from hundreds of kilometres away and may have crossed international borders.^{7,8} For example, scientific studies show that large numbers of wild animals from the Amazon rainforest are being smuggled along river routes in the region. Iquitos is one of the main trafficking points in Peru.⁹ It is therefore possible that some of the animals on sale at Belén market may have been transported to and from neighbouring countries such as Brazil. Brazil's border lies within a few hundred kilometres from Iquitos and can be accessed along the river route.^{7,8}

Previous studies show that primates captured from the wild in Peru are transported from rural villages to cities such as Iquitos on journeys that can sometimes take several days.⁴³ Animals unsold at city markets after a few days may be smuggled to other local markets, coastal cities, or ports/boarders to be sold internationally.⁴³

Other recent research has reported on a new wave of illegal trade in jaguars linked to Chinese demand for their teeth.^{10,38} This has caused an increase in exploitation rates of the species and may threaten jaguar populations. Jaguar body parts have been found frequently on sale to tourists in the cities of Iquitos and Pucallpa.^{10,39}

Photo: Itaya River where Belén market is located. People from the river and neighbouring communities bring wild animals to the market to sell.

Credit: World Animal Protection



Photo: Sloth claw intended for commercial sale. Some sloths on sale at Belén market are sourced from illegal logging operations in nearby forest areas. Live sloths are sometimes sold to be used as tourist entertainment where many do not survive beyond 6 months.
Credit: Fernando Carniel Machado / World Animal Protection



Wildlife trade field work post-COVID-19

Belén Market, Iquitos, Peru

Belén market was reported to have closed for much of 2020 and 2021 in response to the COVID-19 pandemic. The emergence of COVID-19 has been directly linked to wildlife trade.^{14,16,17} After recent intelligence reports that trade activity was resuming, World Animal Protection revisited Belén market and other smaller satellite markets in Iquitos during August and September 2021. The purpose was to gain new insight into the post COVID-19 status of illegal wildlife trade activity.

Our on-the-ground research confirms that Belén market has re-opened, and the selling of wildlife (live and body parts). Some wild meat is also being traded in surrounding smaller markets in Iquitos (including Masusa Port, Modelo Market, and Nanay Port).

A rapid investigation into illegal wildlife trade activity

For the field investigation at Belén, the investigators divided the market area into three sectors (see Appendix 1).

Sector 1: Some improvements and redevelopments to the market were evident in the first sector. There were relatively safer distances between stalls, and a general appearance of a more structured and hygienic market. Police presence was also observed in the first sector where chicken and pork was observed being sold, but not wild meat. However, investigators confirmed that trade in wild animal derivatives for medicinal use was still happening at some stalls in this area.

The illegal trade in wildlife body parts as traditional medicine was particularly prevalent in the Pasaje Paquito area of Sector 1. Here a range of different products are sold, such as bread, seeds, bottles, herbs, and handicrafts; wild animal body parts were also openly observed on sale. A National Police officer stated that a lot of work has been done in the Pasaje Paquito area, where they knew animal products like claws, nails and teeth were openly sold. They reported that this type of trade has now been reduced or eliminated due to their efforts.

However, contrary to this statement, investigators openly observed illegal wildlife trade activity at this part of the market. At one store in Pasaje Paquito, investigators observed the skull of a black caiman, three dead “ocelot” skins hanging, a puma skin, anaconda skin, and the head of a dead ocelot (See Appendix 1). No police presence was observed in this sector during this investigation.

Sector 2: A substantial portion of the second sector was more densely populated with shorter distances between stalls (relative to Sector 1). The sale of wild meat such as caiman, yellow-footed tortoise and yellow-spotted river turtle was also observed at more secluded stalls. It was being sold alongside fish.

Sector 3: No improvements or redevelopments were observed in the third sector. Illegal wildlife trade activity was operating openly, and in a similar manner to that observed by field researchers in 2019. Investigators confirmed that wild meat and live wild animals, such as native parrots were still openly sold.

Contrary to pre-COVID-19 scientific survey findings, the sale of live primates and their derivatives was not observed. According to a National Police officer: “People from neighbouring communities hunt animals including primates, and some bring them to the market for sale. But primates are not something that you can find normally in the market.”

Consequently, further field research is required to determine whether this type of trade activity has returned to pre-COVID-19 levels. No police presence was observed in this sector during the investigation.

Regarding the volume of wildlife trade taking place post-COVID-19, it should be noted that not all of the market stalls at Belén are fixed. Many are constantly changing location, making it difficult to identify the full extent of any changes in illegal wildlife trade activity that have been made post-COVID-19. This was reiterated by the National Police officer interviewee.

When asked about the number of stalls selling wildlife at Belén, they stated that it is impossible to quantify. This is because “people are constantly moving and are not in a fixed place” and that those involved in illegal trade activity “don’t obtain a place for sale at the market but operate more opportunistically.”

In addition, conversations with vendors and officials at Belén revealed mixed opinions. This made it difficult to directly compare overall trade activity with pre- COVID-19 levels. Some vendors reported an increase in the volume of trade in some wild animal species, such as caiman. Others perceived a decrease in wildlife trade overall. An officer from the National Police recounted that it was “business as usual” regarding wildlife trade activity in Iquitos.

Interviews with two wild meat vendors at Belén, one solely dealing in caiman, and the second in paca and deer, revealed that their products were sourced from local fishermen and hunters. The vendor selling caiman stated that they only dealt in caiman meat. When asked if they had encountered any problems due to selling caiman meat, they admitted that it was forbidden to sell it. They said it was a very popular meat with more people buying it after the pandemic.

The vendor attributed this increase in sales to a belief that caiman fat has medicinal properties and is effective in dealing with rheumatism “pains”, “bronchi” (presumed reference to respiratory ailments), and all diseases. However, it is not clear that the vendor was linking the use of caiman to medicinal use to treat COVID-19 specifically. They also stated that consumers prefer to consume their tails, as it is mainly meat.

A further interview with a vendor selling yellow-spotted Amazon River turtle eggs reported that this is a seasonal food product on sale at the market between August and October. The turtle eggs are reportedly sourced from people that collect them from beaches along the river borders in the Amazon region and beyond.

Another interview with a consumer purchasing yellow-footed tortoise in the market reported that it is an expensive, tasty dish that is prepared only occasionally. They confirmed and that it is difficult to find in the market because when out of season the yellow-footed tortoise becomes “scarce”. The cost of yellow-footed tortoise has reportedly increased recently in the market.

Our on-the-ground research also confirms that the sale of wild animal body parts for medicinal and spiritual use was still happening at the Belén market post-COVID-19. For example, a vendor selling sloth (“pelejo”) body parts stated that the claws of the animal were being sold. They explained claws are often bought for the spiritual purpose of “taming jealous men”.

The vendor also explained that powder collected by scraping the sloth claws can be put into the clothing or food of a “jealous individual” to “prevent a violent, jealous reaction”. The vendor stated that sloth claw powder is also consumed with tea or with food to “control epileptic seizures”. Sloth claws sold at Belén are reportedly sourced by people from the local farms or properties

outside of the city who come to the market to sell wildlife they have hunted.

According to the vendor, the dried head of a yellow-footed tortoise can also be used for “taming jealous men”, the tapir nail can be used to treat hemorrhages, and the armadillo tail for inner ear pain.

A National Police officer said that most people selling wildlife in Belén market traded in “monkeys, parrots, macaws, boas, caimans and tortoises”. He explained that in the past, police have also rescued wildlife not native to the region. He stated that most people buying wildlife in Belén market are “nationals or people visiting Iquitos and want to take away a monkey or a parrot”. He pointed out that tourists typically take pictures or videos but do not purchase wildlife.



Photos (top to bottom): 1. Live parakeets held in unhygienic conditions, intended for commercial sale. 2. Caiman with an abdominal incision ready for sale, placed next to plant products. 3. Waste on the bank of the Itaya River where the Belén market is located. **Credit:** World Animal Protection

Law enforcement

There was a visible police presence at Belén market post-COVID-19, but only in Sector 1. Conversations with authorities at the market revealed that only one of the nine environmental-ecological police officers operating at the market, deals with wildlife trade. They stated that a lack of resources makes it difficult to apply the law and prevent trade activity.

Our researchers interviewed a National Police officer who is collaborating with the decentralised unit of the environmental-ecological police. This unit specialises in the prevention of all environmental crimes in Iquitos. The officer stated that wildlife trafficking in the Loreto Region, of which Iquitos is the capital city, decreased during the pandemic. He explained this was because: “people couldn’t go out of their houses and the demand for wildlife reduced as a result. But as soon as things began to return to normality, the illegal sales of wild animals reverted to business as usual.”

He stated that things are almost back to normality in the Loreto Region now. However, he also claimed that illegal wildlife trade was reducing here before the pandemic. He said this was due to the investigations, rescues and detentions they have been conducting to tackle illegal activity.

According to the officer, the focus of illegal wildlife trade in the area is in the lowland of the Belén market and other markets in the city. People from the river and neighbouring communities bring wild animals to these locations to sell. Other reported hotspots for wildlife trade in the region include the Masusa Port, Modelo Market and the fluvial port of Nanay.

The officer stated that public awareness campaigns of the legal ramifications of illegal trade activity are in the police force’s remit. He explained they focus efforts on sellers in the lowland of Belén market, giving out brochures and images of illicit cases with the hope that people don’t continue with this type of activity.

However, during our investigation, we observed no signage around the market raising public awareness of the risks (public health, animal welfare, and conservation) or legal ramifications of wildlife trade activity. Currently, it is also unclear what measures have been taken post-COVID-19 to prevent illegal wildlife trade activity going underground or elsewhere.

Hygiene conditions

Some measures have been implemented post-COVID-19 to improve hygiene conditions in some sections of Belén market. For example, in the first sector and roughly half of the second sector, there appeared to be relatively safer distances between stalls. The market also appeared to be generally more structured and hygienic.

However, in the second and third sectors, face masks were used inconsistently by both visitors and vendors. And vendors were observed handling wild meat and live wild animals without gloves. The investigator also witnessed areas where there was no separation between stalls selling animals and plant products, and the free roaming of dogs between market stalls.

Wild meat such as yellow-footed tortoise was observed for sale in open air and not covered, and arapaima (“Paiche”) and caiman were observed stored on the floor. Poor sanitation conditions in and around Belén market were still evident post-COVID-19 with a considerable amount of waste present next to the market by the Itaya River’s edge. Environmental pollution and unsanitary conditions around the market is a well-known and on-going problem for the region.

Photo: Lowland paca, deer meat and pirarucu meat on sale in open air and in close proximity to other plant and domesticated animal products.. **Credit:** World Animal Protection



Photo: Juvenile anaconda on sale at Belén market for belief-based use. Other profitable belief-based use items available for sale include the Common boa, which is thought to bring protection and prosperity and is sold for both spiritual and medicinal use. **Credit:** Fernando Carniel Machado / World Animal Protection



Summary of desktop research

The United Nations Development Program

The United Nations Development Program (UNDP) has had a long running involvement with plans regarding the improvement of Belén market.¹³ The UNDP and the Peruvian Ministry of Production have worked together since 2015, to improve the “marketing services of the great Belén market in Iquitos”.⁴⁴ To this end, an agreement was signed on April 16, 2015 by the District Municipality of Belén. It gives powers to the Ministry of Production to execute a project, helping “promote the food security of the population, recover, improve the local trade dynamics”.¹³

In May 2020 Belén market was reported as a likely location where Iquitos inhabitants were contracting COVID-19; the Loreto Region was one of the worst hit in Peru.⁴⁴ COVID-19 tests conducted by the Loreto Regional Health Directorate found that, in a sample of 100 vendors in Belén, 99 had the virus.⁴⁵ This finding was also highlighted at a conference by the then Peruvian president, Martin Vizcarra.⁴⁶

To help stem the spread of the virus, the authorities closed the market for the rest of 2020. A reopening was scheduled for the third quarter of 2021, after extensive redevelopment.⁴⁷ The plan, supported by the UNDP, aimed to create a 6.5-hectare market “divided into five platforms, housing 954 stalls” with commercial spaces of between six to eight square meters, with a supply of water, electricity and sewage supplies.⁴⁸ The authorities hoped that ensuring “a modern, safe and inclusive infrastructure”,⁴⁹ would promote the development of 1,100 businesses, and benefit the 400,000 inhabitants of Belén.^{47,48}

As of September 2020, the project was assessed to have progressed around 56% of the planned building work.⁴⁸ The then Minister of Production, Jose Luis Chicoma, announced that the third quarter of 2021 would see its inauguration.⁴⁷ A project document stated that the construction of new infrastructure, and safeguarding the quality of food and products sold at the market, would act as a “key tool in achieving the Sustainable Development Goals (SDGs)”. The SDGs highlighted were: SDGs 1 (End of poverty), 5 (Equality of gender), 8 (Decent work and economic growth), and 12 (Responsible consumption and production).¹³ In addition to the immediate economic

improvements, the project document stated that a modern market would have an impact on the health of the population. It would achieve this by “reducing the number of infections of COVID-19 and improving the living condition of the population”.¹³

However, it is important to note, there is no specific mention of tackling illegal wildlife trade in the redevelopment plan for Belén market. UNDP and collaborating national authorities are clearly concerned about preventing diseases through improving sanitation and hygiene conditions. But, they are neglecting to deal with the wildlife trade, which has been linked to causing the COVID-19 pandemic, and are failing to properly help prevent future zoonotic disease outbreaks.

International illegal wildlife trade

Evidence from research reports and peer reviewed literature highlights how external pressure from traders and consumers in G20 “consumer” countries like China and Brazil greatly influences Peru’s wildlife trade. This is in addition to urban luxury use of wildlife within the country.

Iquitos is the main axis point for wildlife trade in the north-eastern region of Peru. Wildlife poached in the Loreto Region is brought together in Iquitos for sale locally or for export to other regions. Wildlife is also traded from Iquitos to neighbouring countries, such as Brazil, via the tri-national border town of Santa Rosa.⁸ Lack of resources, capacity, and co-ordination between enforcement agencies in these countries means that cross-boundary illegal wildlife trafficking is happening virtually without control.⁷

The triple border region between Brazil, Colombia and Peru (especially the towns of Tabatinga (Brazil) and Leticia (Colombia)) has been identified as a major hub for two-way trafficking of wildlife in the Amazon region. Wildlife trafficking often goes hand in hand with the smuggling of other illicit goods such as timber, drugs and arms.⁷

Large numbers of live wild animals and volumes of wildlife products are reportedly transported between these countries, almost freely. Rivers are a major transportation route. River turtles and fish, particularly, are transported and sold in large volumes along these river routes. And high numbers of passerine songbirds are reportedly trafficked from Peru to Brazil.⁷ Species such as paca, tapirs, deer, peccaries are also widely sold illegally as wild meat on the tri-national border. Wild meat trading is thought to be one of the most demanding illegal trade issues in the region.⁷

Bolivia is believed to act as a bridge for illegal trafficking of wildlife between Brazil and Peru.⁵⁰ For example, trade in threatened species of macaws has been documented to flow from Brazil to markets in Peru via Bolivia.⁵⁰

A National Police officer also informed our field investigators of a operation, before the pandemic, at the border with Colombia and Brazil. Several animals including a manatee, monkeys, parrots, and a capybara were rescued.

There is also mounting evidence of a growing demand for illegally sourced wildlife products from consumers in China (and other East Asian countries) for the traditional medicine market. This puts increasing pressure on enforcement efforts in Peru.^{9,10,38,39} In Iquitos, a 2018 investigation revealed Chinese citizens as the main consumers of jaguar teeth from market sellers paying up to US\$100 per fang. Traders in Iquitos reported that the demand for jaguar parts from Chinese nationals was growing at that time.¹⁰

This was also confirmed by an official from the Regional Environmental Authority who stated that laws against the sale of wildlife in the markets are not being applied. He pointed out that control and supervision of wildlife trafficking in river ports is a particular challenge because of the magnitude of ports in the Amazon region.¹⁰ More recently, research has linked the growth in demand for jaguar parts to increasing Chinese investment in South America,⁹ particularly in Brazil and Peru where Chinese investment has increased 10 fold in the past decade.³⁸

Photo: Woolly monkey at Belén market. Various other species of primates, including howler monkeys and squirrel monkeys, are also being sold live as pets or as derivatives and wild meat, highlighting the potential zoonotic disease risk posed by these wildlife trade hubs. Primates captured from the wild in Peru may be smuggled from rural villages to cities such as Iquitos on journeys that can sometimes take several days. **Credit:** Fernando Carniel Machado / World Animal Protection



Conclusion and recommendations

Our post-lockdown field investigation of Belén market found that illegal wildlife trade activity remains a major ongoing issue at this largest wildlife market in Peru's Amazon region.

Wildlife (live and body parts) were observed still being illegally sold and openly on market stalls for domestic urban consumers. Illegal international trade and associated international demand for prohibited wildlife sold at this location also remain a longstanding and on-going concern.

Authorities in Peru are actively trying to combat the illegal wildlife trade, through strong laws prohibiting the sale of wildlife and the implementation of a national anti-wildlife trafficking policy. They are also setting out plans to strengthen alliances with Peru's bordering countries (Brazil, Ecuador, Colombia, Chile, Bolivia) to implement international mechanisms to curb illegal wildlife trafficking.^{7,8} It appears the open sale of wildlife is less visible in some sections of Belén market. Our investigators confirmed that some measures, presumably partly through collaboration with UNDP, have already improved hygiene conditions in some sections of the market.

However, existing efforts to curb illegal wildlife trade are hampered by poor enforcement across large areas of Belén market. More resources are needed to better enforce regulations

to help tackle illegal wildlife trade here, and to prevent trade activity from going underground or elsewhere.

National authorities and UNDP should move beyond efforts to improve marketing services and food security hygiene. They should factor in specific steps to help prevent illegal wildlife trade at Belén market to safeguard wild animal welfare and conserve wild populations. These steps should also help properly protect public health currently at risk from existing and emerging zoonotic infectious diseases.

Efforts should focus on increasing public awareness of the risks (public health, animal welfare, and conservation) and legal ramifications of illegal wildlife trade activity at markets in Iquitos. Wildlife trade is largely driven by urban luxury consumer demand in Iquitos. There are, however, concerns that Peru is also influenced by international traders and consumer demand in other G20 countries, such as Brazil and China. This makes enforcement efforts very difficult to implement.

Strong laws and enforcement efforts in "front-line source countries" like Peru mean little if they are not supported by other consuming countries. Consequently, collaboration between nations worldwide is needed to put an end to wildlife trade to protect wildlife and people in Iquitos.

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Appendix 1

Post COVID-19 investigation images

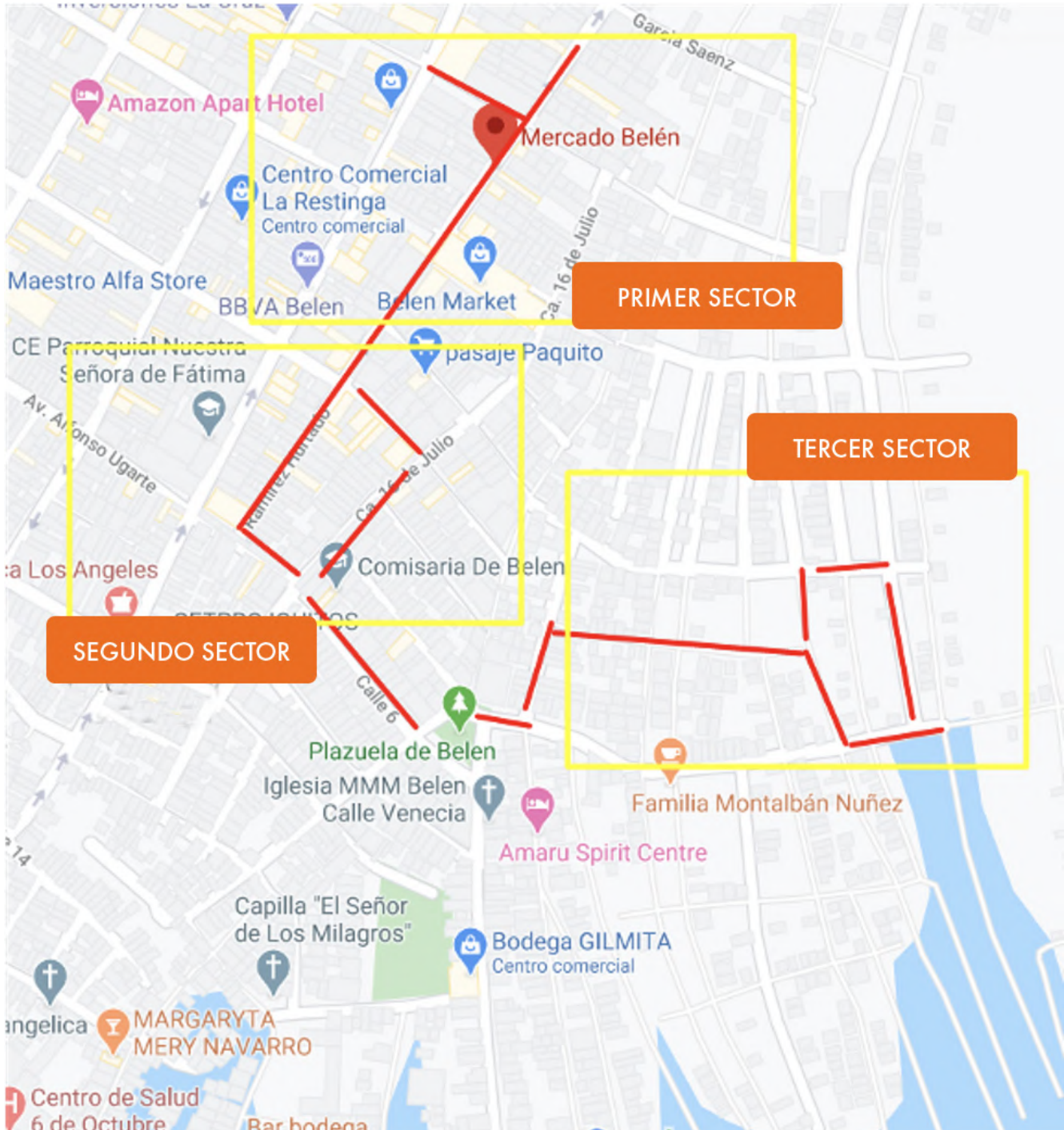


Photo: Map of Belén market, with the area divided into three sectors for the purpose of the field investigation in August and September 2021. **Credit:** World Animal Protection

Images taken August – September 2021 (post COVID-19).



Photo: Caiman pieces being placed on a table for sale. **Credit:** World Animal Protection



Photo: Birds in a box for sale, kept in unhygienic conditions. **Credit:** World Animal Protection



Photo: Anaconda skin on sale. **Credit:** Fernando Carniel Machado / World Animal Protection



Photo: Wild meat on sale at Belén market, Iquitos. **Credit:** World Animal Protection



Photo: A dead tortoise and a peccary skin stored on the street floor amongst fruit products. **Credit:** World Animal Protection



Photo: Anaconda skin on sale. **Credit:** Screenshot from footage / World Animal Protection



Photo: Ocelot skins on sale. **Credit:** Screenshot from footage / World Animal Protection



Photo: Ocelot head on sale. Please note this is a screen shot from footage. **Credit:** Screenshot from footage / World Animal Protection



Photo: Sloth paw on sale. Please note this is a screen shot from footage. **Credit:** Screenshot from footage / World Animal Protection


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