# Pangolins or protein? The impact of wildlife trade bans on global nutrition

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**Target journal:** Something that publishes snappy letter-type things. *Conservation Letters*, *PNAS,* a baby *Nature*, *Conservation Science and Practice, Conservation and Society*

**Overview:** Short, snappy piece with back-of-the-envelope calculations for what a ban on wildlife trade would mean for nutrition, and how this is likely to translate into added pressures on fisheries of land-use change.

## Abstract

## Introduction

* COVID as a catalyst for wildlife trade bans; already implemented in China; advocated by **who?**
* Good intentions, but potential unintended consequences—need joined up thinking for this.
* Alternative protein sources have the potential to have big impacts: livestock as a major driver of habitat loss (¿particularly in places with a lot of bushmeat consumption?); a lot of fisheries as poorly regulated, or at MSY—there’s not a lot of wiggle room.
* Here we provide an estimate of the dietary protein that wildlife trade provides in **where**, and calculate the potential requirements of replacing it with wild caught fish or domestic livestock (**n.b.** should probably throw in a comment about aquaculture here)

## Methods

* Look at what the Chinese ban actually involves
* For every country for which we have data, estimate the total tonnage of food that would be prohibited
* Use nutritional databases (and dressing percentages—where the fuck are we going to get those? “Excuse me sir, could I butcher your monkey to see how much meat I can extract from it?”) to estimate the total protein supply this accounts for in each country.
* Estimate three things:
  + The impact on supply of dietary protein in these countries, if it isn’t replaced. **Extra:** we may want to nuance this, if we have any info on who does most of the eating. It may fall disproportionately on certain groups. I’d imagine if we spread the impact evenly across everyone in a country then it’ll have v little impact in most places. But, we may want to focus it down?
  + The impact on fisheries landings if it is entirely replaced by fish. **Extra:** can we link this to the sustainability of those fisheries?
  + The impact on livestock demand and therefore on land demand if it is entirely replaced by livestock. This will require

1. The tonnes of livestock required (based on the current mix that is produced in a country **or** by matching species)
2. A guestimate of how much of their feed comes from grazing vs. crops
3. An estimate of how much land required for both grazing and fodder crop production

* We could also do a “replace with crops” variant, but I think that’s a bit dull? It’ll just be another “it’s better to eat crops than meat” paper
* **Extra:** Are there any estimates of the sustainable offtake rates in these countries? Seems pretty unlikely, but would be a cool twist.

## Results

* Wildlife provides **X** tonnes in the **Y** countries we analysed, potentially meeting the protein requirements of **Z** people.
  + Details: skew in countries; who relies on it etc.
* Removing this protein source would potentially result in **X** people becoming malnourished.
* Replacing this protein would require:
  + **X** tonnes of fish (extra details if we have them: how many countries could sustainably meet this within their domestic fisheries?)
  + **Y** tonnes of domestic livestock (largely cows/pigs/chickens/alpacas)
  + The clearing of **Z** hectares of new agricultural land for grazing and

## Discussion