



Peruvian and Chilean Anchovy

Case Study

Disclaimer: This case study does not necessarily represent the current situation of this fishery and is conceived only for training purposes.

The Chilean artisanal fleet in the north of Chile would like to develop a FIP on the shared anchovy stock between Chile and Peru.

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Anchovy (*Engraulis ringens*) is a small pelagic fish (lives on the surface of the ocean) in the southeastern Pacific Ocean and is regularly caught off the coasts of Peru and Chile. They have a short but productive life cycle, living up to four years.

The anchovy is distributed along the southeast Pacific coast from Ecuador to southern Chile and comprises of four separate stocks.

Country	Stock	FAO major fishing area
Peru	Anchovy Peruvian Northern stock	Pacific, Southeast
Peru and Chile	Anchovy Peruvian/Chilean shared stock	Pacific, Southeast
Chile	Anchovy Chilean North-Central stock (III-IV region)	Pacific, Southeast
Chile	Anchovy Chilean South-Central stock (V- VIII region) Mixed fishery with Araucanian sardine (<i>Strangomera bentincki</i>)	Pacific, Southeast

Stock	Fleet involved	Stock Status
<p>1. Peruvian Northern stock</p>	<p>Industrial coastal fleet (purse seine)</p> <p>Small-scale coastal fleet (purse seine)</p> <p>Artisanal coastal (purse seine)</p>	<p>Fully exploited. The biomass has been estimated at over 8 million tons, which is above the target reference point of 4 - 6 million tons that allows for the sustainable renewal of the stock.</p>
<p>2. Chilean/ Peruvian shared stock</p>	<p>Chilean industrial coastal fleet (purse seine)</p> <p>Chilean artisanal coastal (purse seine)</p> <p>Peruvian industrial coastal fleet (purse seine)</p> <p>Peruvian small-scale coastal fleet (purse seine)</p> <p>Peruvian artisanal coastal (purse seine)</p>	<p>Unclear. Chile and Peru have differing thoughts on the status of the shared stock. Based on fishery indicators and trends, Chile determined that the stock is in a state of overexploitation. However, the Peruvian Institute of the Sea deems the stock to be fully exploited, with biomass above maximum sustainable yield (MSY) in recent years.</p>
<p>3. Chilean North-Central stock (III-IV region)</p>	<p>Chilean industrial coastal fleet (purse seine)</p> <p>Chilean artisanal coastal (purse seine)</p>	<p>Fully exploited. The total and spawning biomass show an increasing trend as of 2016, being above the average of the historical series and 4% above the spawning biomass at MSY.</p>
<p>4. Chilean South-Central stock (V- VIII region)</p> <p>Mixed fishery with Araucanian sardine (<i>Strangomera bentincki</i>)</p>	<p>Chilean industrial coastal fleet (purse seine)</p> <p>Chilean artisanal coastal (purse seine)</p>	<p>Collapsed. The anchovy resource in regions from Valparaíso to Los Lagos remains in a situation of depletion or collapse with spawning biomass values of the most recent year around 57% below the value estimated at MSY.</p>

Management of Stocks

Chile and Peru manage these stocks independently, but both countries are looking for their long-term conservation. Peru has two seasons per year to establish fishing quotas based on effective monitoring through seasonal surveys that estimate abundance. Additional oceanographic information is also collected.

The Peruvian fishery management agency, PRODUCE, allocates the seasonal fishing quota, but there is no clear harvest control rule established. Chile, on the other hand, manages the anchovy fishing stocks through indirect stock assessments that are cross-checked with surveys.

The Chilean fishing administration has clearly defined reference points, and the allocated quotas aim to move fisheries towards MSY, where it is possible to define a clear harvest control rule. Both countries monitor fisheries management measures.