

THE STATUS OF WORLD MARINE FISHERY RESOURCES

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- **Biologically sustainable** stocks consist of the **maximally sustainably** fished (57.3%) and **underfished stocks** (7.2%) of the total number of assessed stocks in 2019.
- In 2019 - Southeast Pacific (Area 87) - 66.7% of stocks fished at unsustainable levels
- Followed by the Mediterranean and Black Sea (Area 37) - 63.4%
- The Northeast Pacific (Area 67), Eastern Central Pacific (Area 77), Western Central Pacific (Area 71), and Southwest Pacific (Area 81) had the lowest proportion (13–23%) of stocks fished at biologically unsustainable levels.

Production- Three groups of patterns

1. Areas with an **overall declining landing trend** following historical peaks
2. Areas with **catches oscillating** around a globally stable value since 1990, associated with the dominance of pelagic, short-lived species.
3. Areas with a **continuously increasing trend** in catches since 1950.

1. Areas with an **overall declining landing** – the lowest percentage of biologically sustainable stocks (59.2%)
2. Areas with **catches oscillating** - the highest percentage of biologically sustainable stocks (76.1%)
3. Areas with a **continuously increasing trend** - the highest percentage of biologically sustainable stocks is in between (67%) - When management intervention is not strong, an increasing trend of catch (Area 51, 57).

Status and trends by fishing area

1. The Northwest Pacific

- **Fluctuating catches** since 1980s (17mt) and 1990s (24mt), 2019- 19.4 mt (10% increase)
- 24.1% of global landings (2019)
- Most productive species - Japanese pilchard (*Sardinops melanostictus*) – 5.4 mt and Alaska pollock (*Gadus chalcogrammus*) – 5.1 mt – its catches declined significantly in the last 25 years
- landings of squids, cuttlefishes, octopuses, and shrimps have increased greatly since 1990.
- Japanese anchovy (*Engraulis japonicus*) (two stocks) and *Alaska pollock* (two atockes) – overfished
- 45 % - assessed stocks - fished within biologically sustainable levels - 2019

2. The Eastern Central Pacific

- 2019- 1.9 mt
- Landing - small and medium-sized pelagic fish (California pilchard (*Sardinops sagax*), anchovy, and Pacific jack mackerel (*Scomber japonicas*), squids, and prawns – interannual fluctuations
- Percentage of assessed stocks in the Eastern Central Pacific fished within biologically sustainable levels has remained stable since 2015 at **85.7%**
- The **second highest** among fishing areas.

3. The Southeast Pacific

- Production – 7.8mt - 10% of the global landing
- Clear decreasing trend since the 1990s
- Anchoveta -5.0 mt and jumbo flying squid (*Dosidicus gigas*) - 0.9 mt (within the biologically sustainable level)
- South American pilchard (*Sardinops sagax*), South Pacific hake (*Merluccius gayi*) and Southern hake (*Merluccius australis*), Patagonian toothfish (*Dissostichus eleginoides*) – overfished
- 33.3 % - fished within sustainable levels in 2019

4. The Eastern Central Atlantic

- **Overall increasing trend** in catches - 5.4 mt
- European sardine - single most important species – 1 mt – underfished
- Round sardinella (*Sardinella aurita*) – catches generally decreasing
- The demersal resources - intensely fished
- 60 % assessed stocks - within biologically sustainable levels in 2019.

5. The Southwest Atlantic

- Production- 1.7 mt (5% decrease from 2017)
- Argentine shortfin squid (*Illex argentinus*) – 10-15% regions total catch
- Argentine red shrimp (*Pleoticus muelleri*), Argentine hake (*Merluccius hubbsi*), Patagonian grenadier (*Macruronus magellanicus*), whitemouth croaker (*Micropogonias furnieri*) – catch showing increasing trend
- 60.0 % - assessed stocks - fished within biologically sustainable levels

6. The Northeast Pacific

- Production - 3.2 mt
- Alaska pollock remains the most abundant species – 50 % of the total landing
- Pacific cod (*Gadus microcephalus*), hakes, and soles are also large contributors to the catches
- Most species except salmon stocks in this region are healthy and well managed
- Science-based advice from the North Pacific Fisheries Commission and North Pacific Fishery Management Council
- Stocks of Pacific salmon – overfished in 2019
- **86.2%** of the assessed stocks -fished within biologically sustainable level
- the **highest** among fishing areas.

7. The Northeast Atlantic

- Third most productive area - 8.1 mt in 2019 (1.2 mt decline from 2017)
- Peak landing – 1976 – 13 mt
- 1970s and 1980s- faced extreme fishing pressure
- Countries have managed better fishing pressure to rebuild overfished stocks.
- Recovery - Atlantic mackerel (*Scomber scombrus*), turbot (*Scophthalmus maximus*), European plaice (*Pleuronectes platessa*), common sole (*Solea solea*), Arctic cod (*Boreogadus saida*), Atlantic cod (*Gadus morhua*), whiting (*Merlangius merlangus*) – 2000s and 2010s
- 72.7 % - assessed stocks - fished within biologically sustainable levels – 2019

8. The Northwest Atlantic

- Production- 1.7mt (decreasing trend)
- Peak production – 4.5 mt (1970s)
- Silver hake (*Merluccius bilinearis*), white hake (*Urophycis tenuis*) and haddock (*Melanogrammus aeglefinus*), Atlantic cod (*Gadus morhua*), American plaice (*Hippoglossoides platessoides*), winter flounder (*Pseudopleuronectes americanus*) and yellowtail flounder (*Limanda ferruginea*) – Overfishing is not occurring - stocks showing poor recovery
- The reasons behind the poor recovery are environment-driven changes in productivity
- 61.1 % - assessed stocks - fished within biologically sustainable levels - 2019

9. Western Central Atlantic

- Production - 1.4 mt (2019) – 2.5 mt (1984)
- Small pelagic fishes, namely Gulf menhaden (*Brevoortia patronus*) and round sardinella , medium sized pelagic species such as king mackerel (*Scomberomorus cavalla*), Atlantic Spanish mackerel (*Scomberomorus maculatus*), and serra Spanish mackerel (*Scomberomorus brasiliensis*) – Overfished
- 62.2 % - assessed stocks were fished within biologically sustainable levels in 2019.

10. The Southeast Atlantic

- Production – 1.4 mt (decreasing trend- 3.3mt – 1960s)
- Horse mackerel and hake support the largest fisheries - recovered to biologically sustainable levels
- Good recruitment and strict management measures.
- Whitehead's round herring (*Etrumeus whiteheadi*) was underfished.
- 64.7 % - assessed stocks were fished within biologically sustainable levels in 2019.

11. Mediterranean and Black Sea

- Historical maximum – 2 mt (mid 1980s)- 2014 (1.1 mt) – 2019 (1.4mt)
- Overfishing
- Stocks of hake (*Merluccius merluccius*), turbot (*Scophthalmus maximus*) and European pilchard.
- General Fisheries Commission for the Mediterranean (GFCM) - assessment of the status of the main fished stocks in the region.
- 36.7 % - assessed stocks were fished within biologically sustainable levels in 2019.

12. The Western Central Pacific

- Production - **second largest landings**, 13.9 mt (17 % global total)
- **linear increasing trend** since 1950
- “miscellaneous coastal fishes”, “miscellaneous pelagic fishes” and “marine fishes not identified” – 50% of regions’ total landing
- Tuna and tuna-like spp- 21%
- Sardinellas and anchovies are also significant in the region
- in the western part of the South China Sea - Few stocks are considered to be underfished
- The high reported catches have probably been maintained through the expansion of fishing to new areas or through fishing down trophic levels of targeted species
- The tropical and subtropical characteristics of this region and the limited data availability make stock assessment challenging with great uncertainties.
- 79.6 % - assessed stocks were fished within biologically sustainable levels in 2019.

13. The Eastern Indian Ocean

- **A steady increase** in catches – 6.8mt (2019)
- Toli shad (*Tenualosa toil*), sardinellas (*Sardinella* spp.), Indian mackerel (*Rastrelliger kanagurta*) and Indian oil sardine (*Sardinella longiceps*) have highly fluctuating landings
- Most likely driven by the combined effect of fishing pressure and changing environment.
- Hilsa shad (*Tenualosa ilisha*) stocks are either fully fished or overexploited.
- 65.3 % - assessed stocks were fished within biologically sustainable levels in 2019

14. The Western Indian Ocean

- Landings **continued to increase** - 5.5 mt 2019
- Penaeidae shrimp stocks - continue to show clear signs of overfishing
- The stocks of sea cucumber- considered overexploited
- The Southwest Indian Ocean Fisheries Commission - assessment of the status of the main fished stocks in the region.
- 62.5 % - assessed stocks were fished within biologically sustainable levels in 2019

Status of major specie (marine capture)

- For the top ten species with the largest landings in 2019 –
 1. Anchoveta (Peruvian anchovy) (*Engraulis ringens*)
 2. Alaska pollock (walleye pollock) (*Gadus chalcogrammus*)
 3. Skipjack tuna (*Katsuwonus pelamis*)
 4. Atlantic herring (*Clupea harengus*)
 5. Yellowfin tuna (*Thunnus albacares*)
 6. Blue whiting (*Micromesistius poutassou*)
 7. European pilchard (*Sardina pilchardus*)
 8. Pacific chub mackerel (*Scomber japonicus*)
 9. Atlantic cod (*Gadus morhua*) and
 10. Large head hairtail (*Trichiurus lepturus*)

- On average, 66.7 percent of these stocks were fished within biologically sustainable levels in 2019.
- European pilchard, Atlantic cod, and Atlantic herring had higher than average proportions of overfished stocks.