Overview of fisheries and stock status of tuna, billfish and sharks in the North Pacific Ocean

ISC

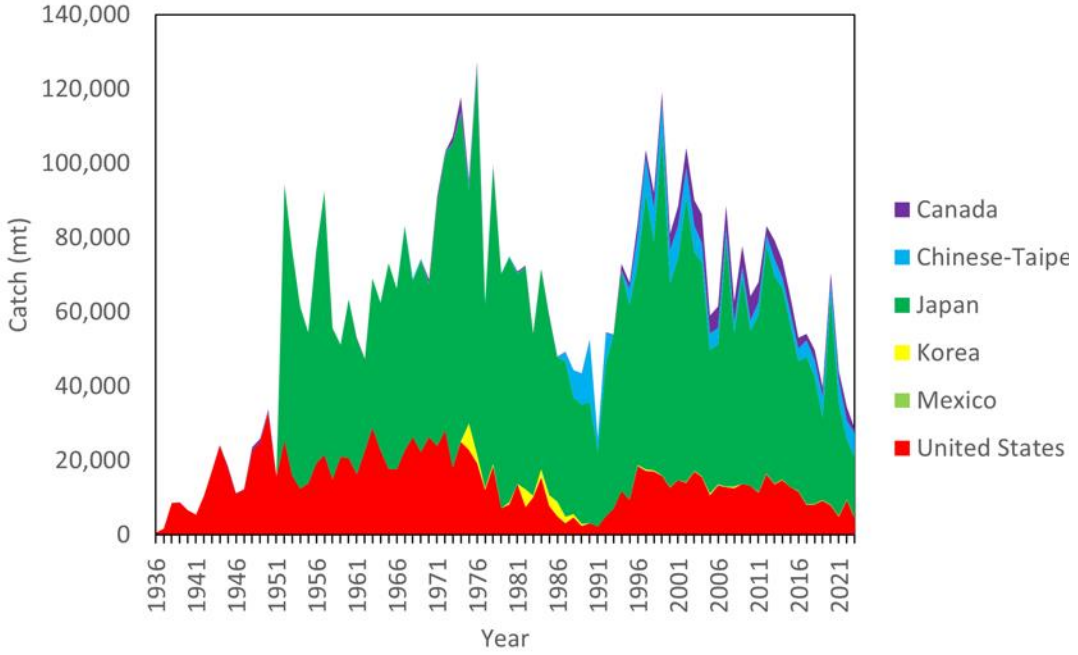
WCPFC – 21st Regular Session of the Commission

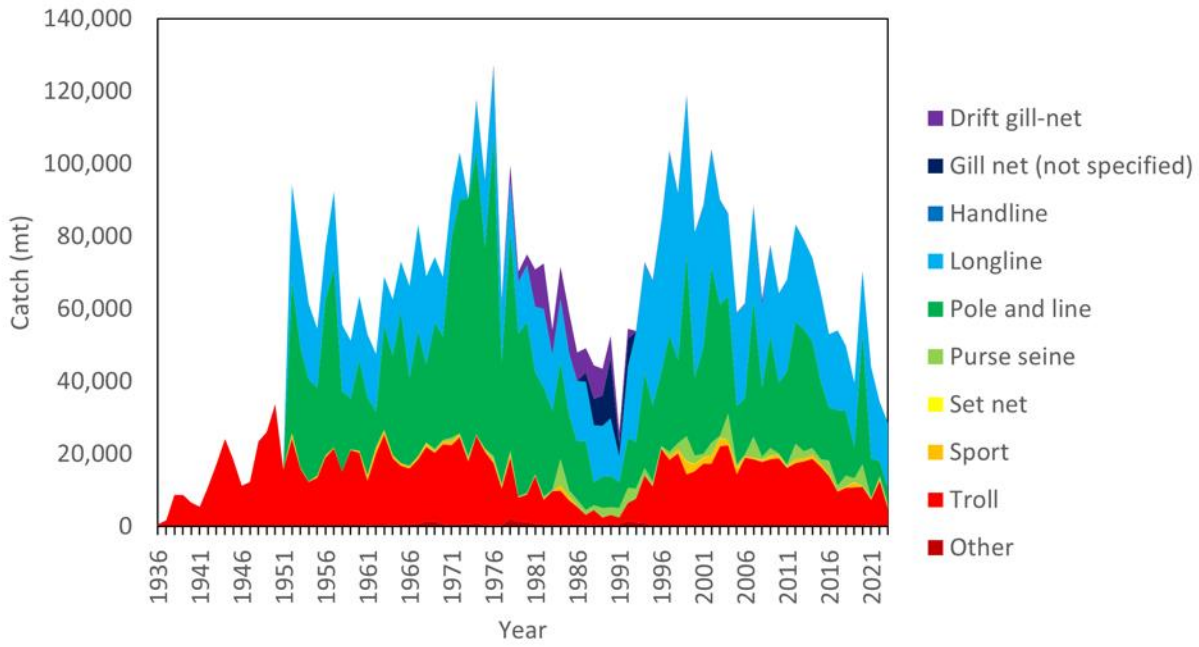
Suva, Fiji, 28th Nov – 3rd Dec 2024.

Landings summaries

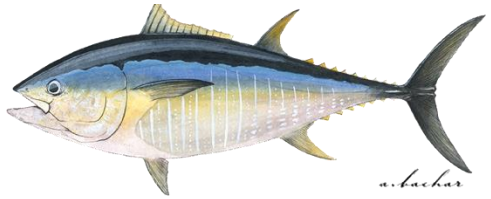
https://isc.fra.go.jp/fisheries_statistics/index.html

North Pacific albacore landings

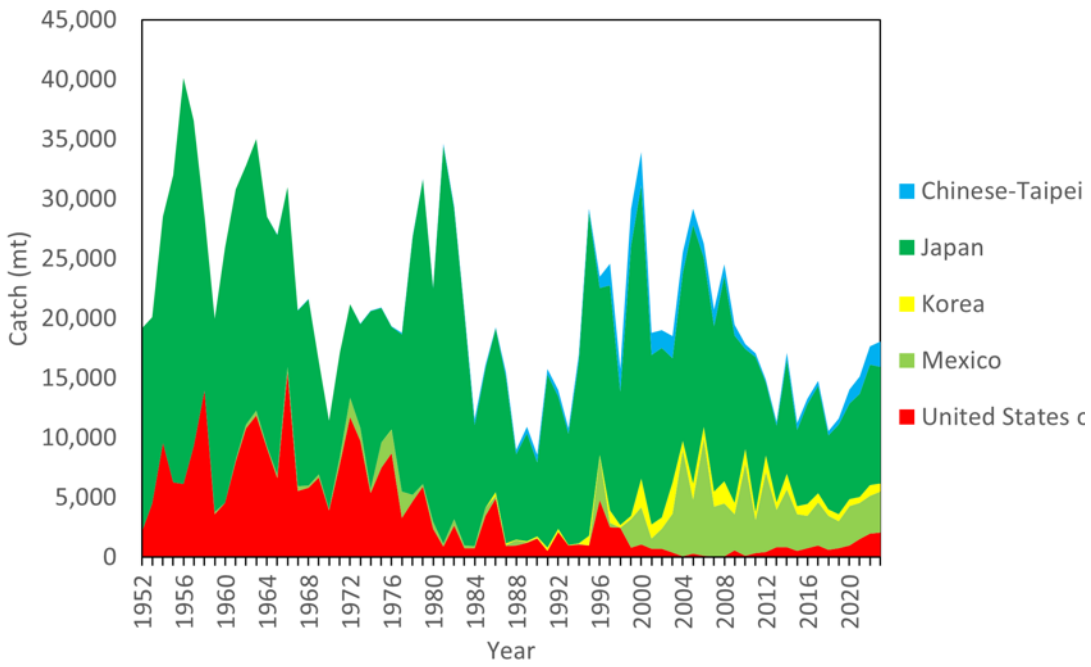


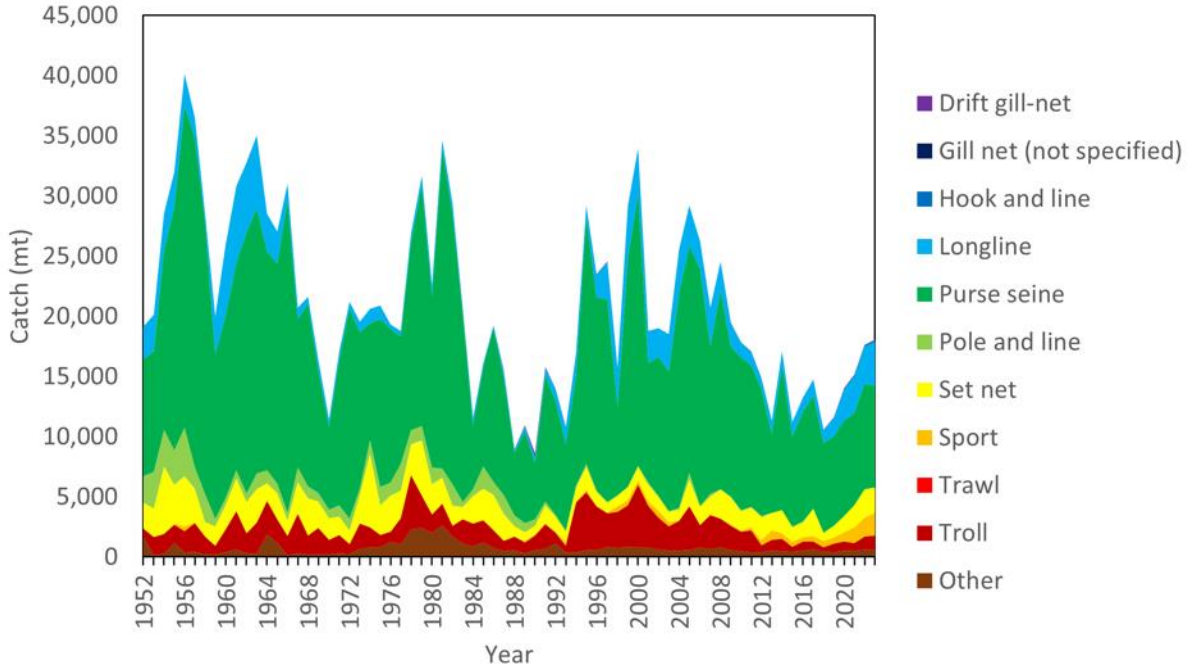


- North Pacific albacore landings were reported lower in 2023 by 17% over the previous year.
- Landings in 2023 were 49% below the 10-year average
- The main driver was reduced landing reported in the Canadian and US troll fleets.



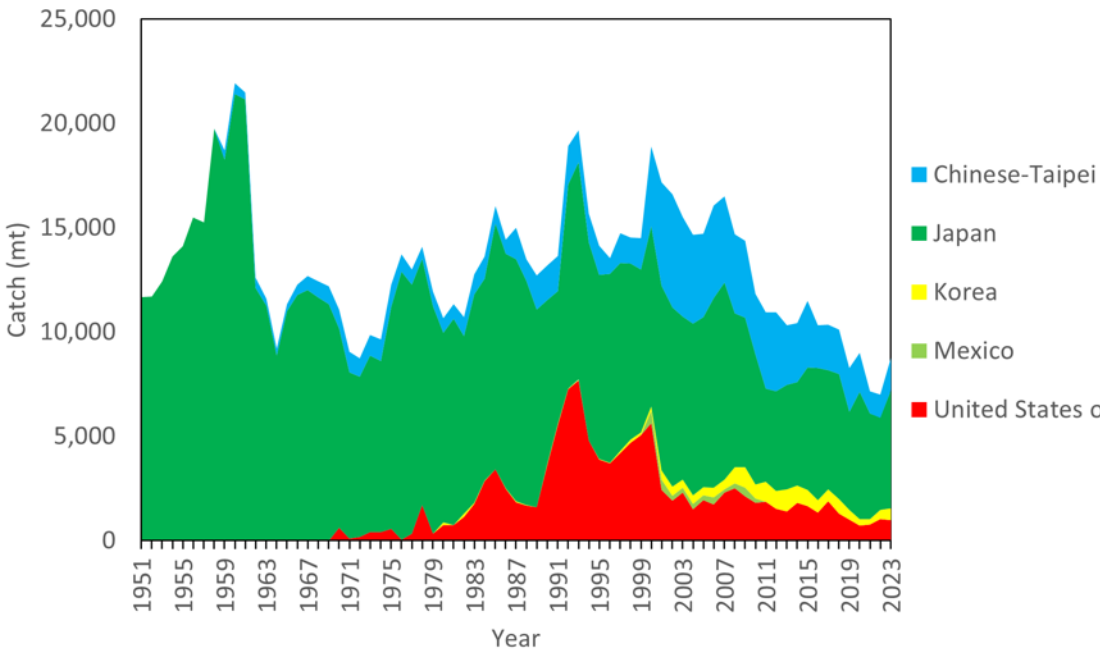
Pacific bluefin tuna landings

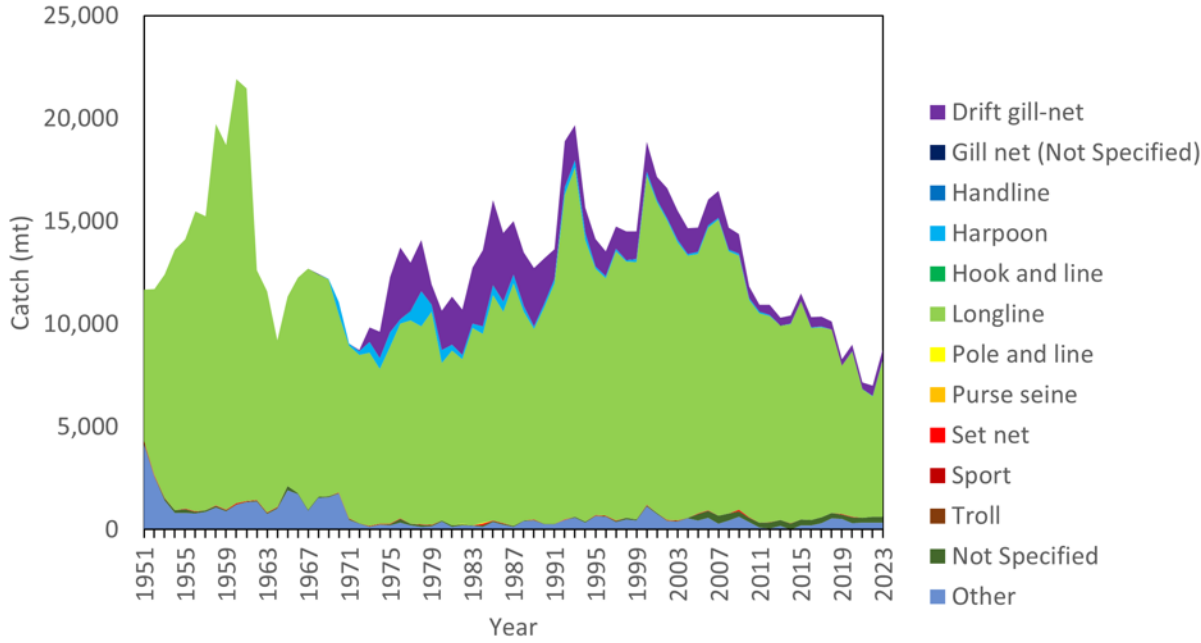




- Pacific bluefin tuna landing were reported higher in 2023 by 2.4% over the previous year.
- Landings in 2023 were 32% above the 10-year average.
- There were no noteworthy changes in country or gear specific catches .

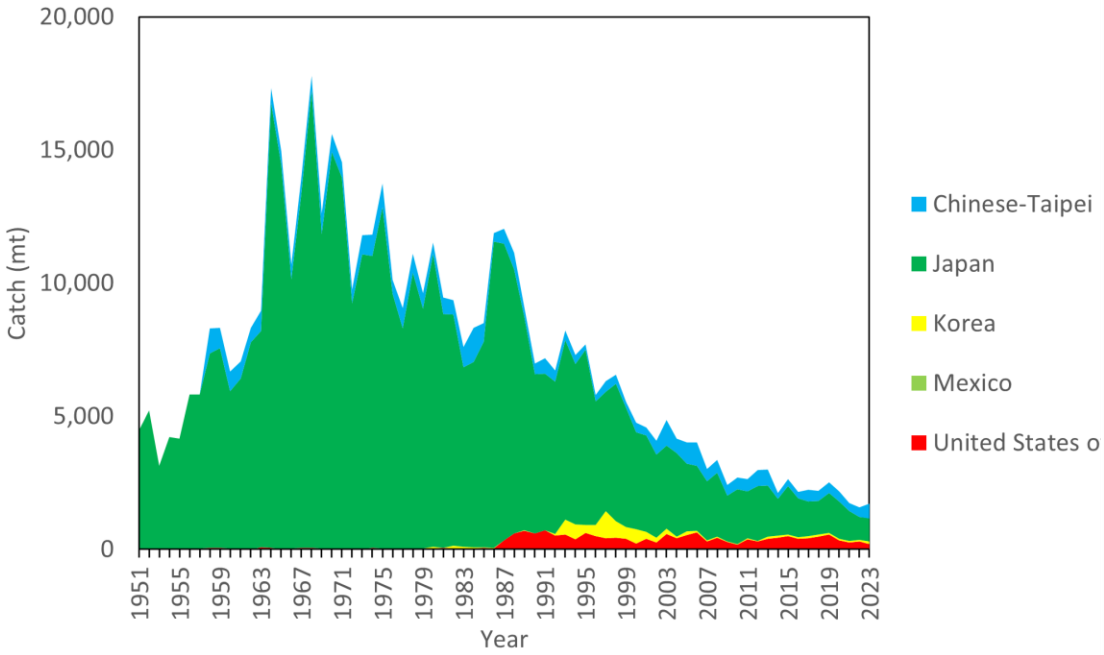
North Pacific swordfish landings

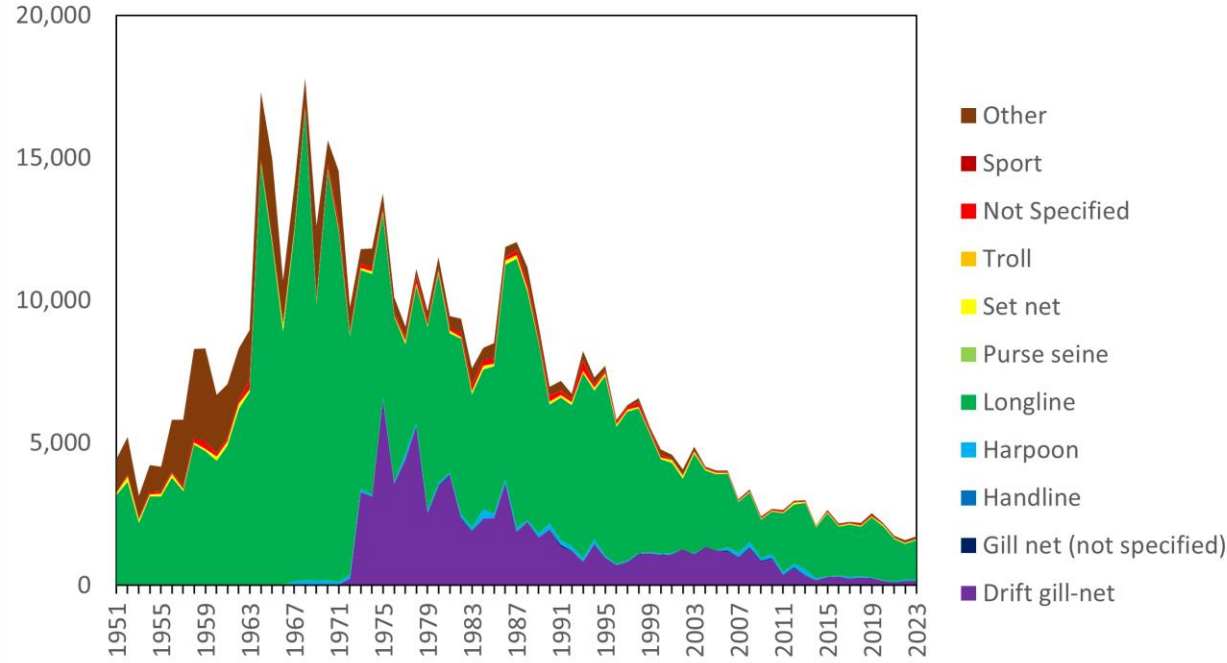




- North Pacific swordfish landing were reported higher in 2023 by 21% over the previous year.
- Landings in 2023 were 65% below the 10-year average.
- There were no noteworthy changes in country or gear specific catches .

North Pacific striped marlin landings

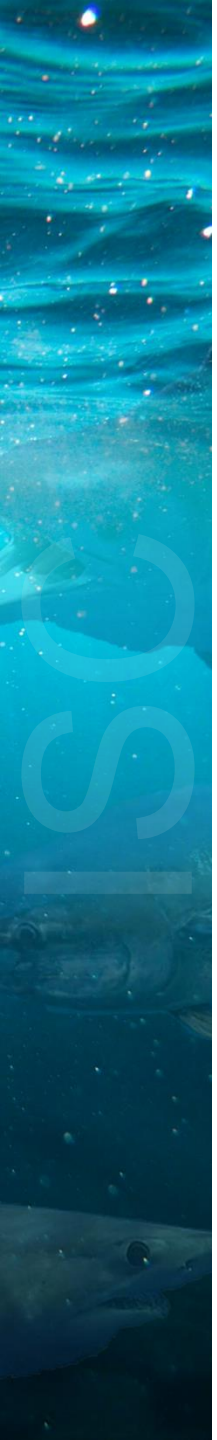




- North Pacific striped marlin landing were reported higher in 2023 by 16% over the previous year.
- Landings in 2023 were 65% below the 10-year average.
- There were no noteworthy changes in country or gear specific catches .

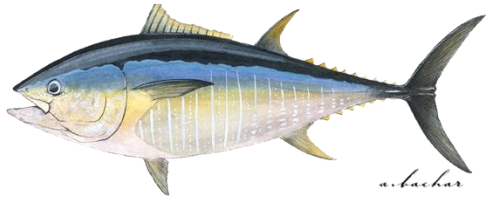
Landings summaries

Species	2023 (mt)	% change from 2022	% change from 10-year mean
Albacore tuna (*Thunnus alalunga*) 	28,433	-17%	-49%
Pacific bluefin tuna (*Thunnus orientalis*) 	18,058	2%	32%
Swordfish (*Xiphias gladius*) 	3,129	21%	-65%
Striped marlin (*Kajikia audax*) 	839	16%	-61%
Blue marlin (*Makaira mazara*) 	4,841	8%	-27%
Blue shark (*Prionace glauca*) 	22,224	7%	-2%
Shortfin Mako Shark (*Isurus oxyrinchus*) 	376	-64%	-72%



Stock status

https://isc.fra.go.jp/recommendation/index.html

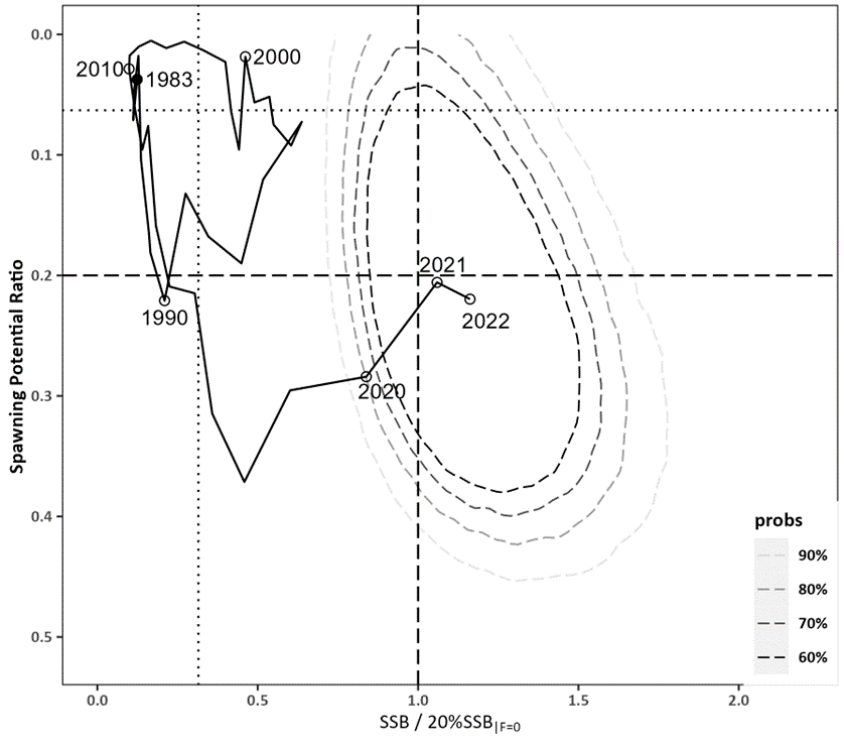


Pacific bluefin tuna

https://isc.fra.go.jp/working_groups/pacific_bluefin_tuna.html

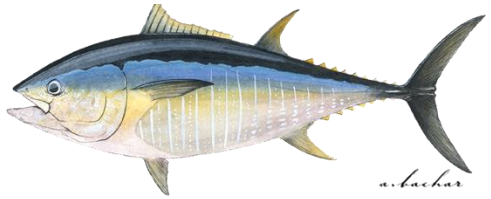
Stock status

- No biomass-based limit or target reference points have been adopted for PBF, but the PBF stock is not overfished relative to 20%SSBF=0, which has been adopted as a biomass-based reference point for some other tuna species by the IATTC and WCPFC. SSB of PBF reached its initial rebuilding target (SSBMED = 6.3%SSBF = 0) in 2017, 7 years earlier than originally anticipated by the RFMOs, and its second rebuilding target (20%SSBF = 0) in 2021 (i.e., 23.2%SSBF = 0)



- No fishing mortality-based reference points have been adopted for PBF by the IATTC and WCPFC. The recent (2020-2022) F%SPR is estimated to be 23.6% and thus the PBF stock is not subject to overfishing relative to some of F-based reference points proposed for tuna species, including F20%SPR.

*SPR (spawning potential ratio) is the ratio of (the cumulative spawning biomass that an average recruit is expected to produce over its lifetime when the stock is fished at the current fishing level) to (the cumulative spawning biomass that could be produced by an average recruit over its lifetime if the stock was unfished). F%SPR: F that produces % of the spawning potential ratio.



Pacific bluefin tuna

Conservation advice

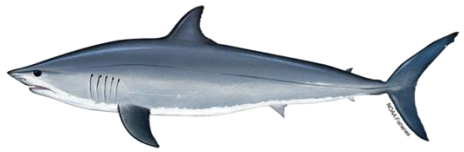
- The PBF stock is recovering from the historically low biomass in 2010 and has exceeded the second rebuilding target (20%SSBF=0). The risk of SSB falling below 7.7%SSBF=0 (interim LRP for tropical tunas in IATTC) at least once in 10 years is negligible.

- Projection results show that increases in catches are possible. However, the risk of falling below the second rebuilding target will increase with larger increases in catch.

- Projection results assume that the CMMs are fully implemented and are based on certain biological and other assumptions. For example, these future projection results do not contain assumptions about discard mortality. Discard mortality may need to be considered as part of future increases in catch.

- Given the uncertainty in future recruitment and the influence of recruitment on stock biomass as well as the impact of changes in fishing operations due to the management, monitoring recruitment and SSB should continue. Research on a recruitment index for the stock assessment should be pursued, and maintenance of a reliable adult abundance index should be ensured. In addition, accurate catch information is the foundation of good stock assessment.

- Next assessment 2027



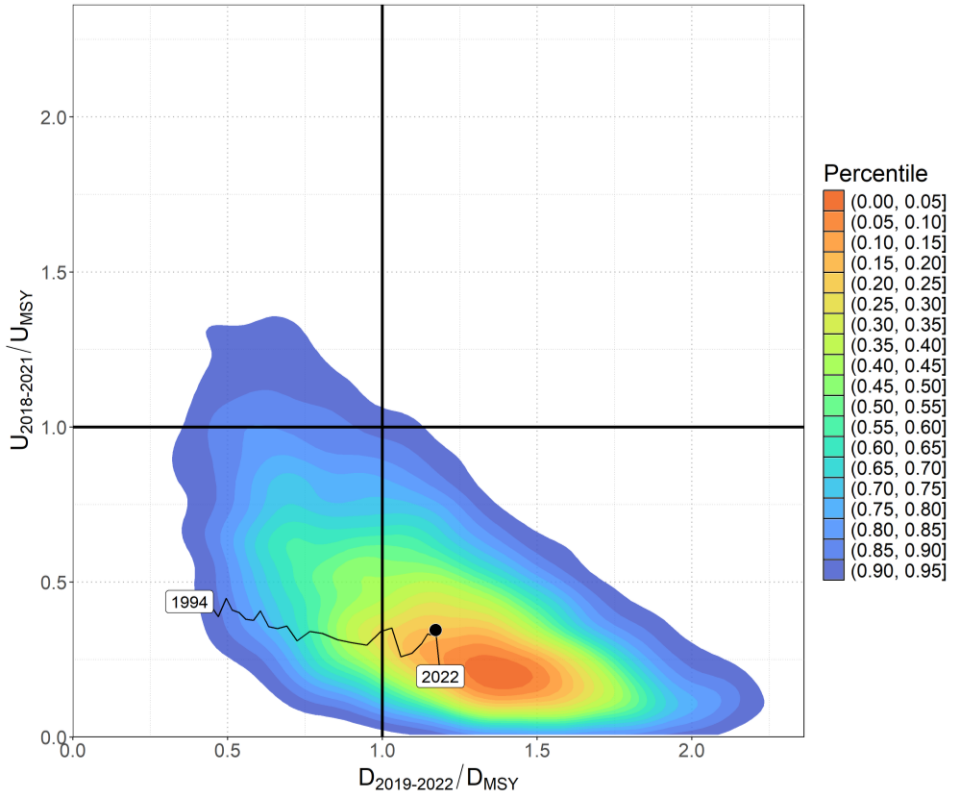
North Pacific Ocean shortfin mako shark

https://isc.fra.go.jp/working_groups/shark.html

Stock status

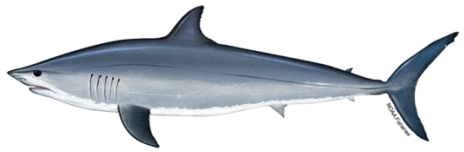
- No biomass-based or fishing mortality-based limit or target reference points have been established for NPO SMA by the IATTC or WCPFC

- Recent median depletion (2019-2022) is estimated from the model ensemble to be 0.60 (95% CI = 0.23-1.00). The recent median depletion is 1.17 times depletion at MSY (95% CI = 0.46-1.92) and the stock is likely (66% probability) not in an overfished condition relative to MSY-based reference points.



- Recent U (U_(2018-2021)) is estimated from the model ensemble to be 0.018 (95% CI = 0.004-0.07). U_(2018-2021) is 0.34 times (95% CI = 0.07-1.20) U_MSY and overfishing of the stock is likely not occurring (95% probability) relative to MSY-based reference points.

- The model ensemble results show that there is a 65% joint probability that the North Pacific SMA stock is not in an overfished condition and that overfishing is not occurring relative to MSY based reference points.



North Pacific Ocean shortfin mako shark

Conservation advice

- Future projections in three of the four harvest scenarios (U_(2018-2021), U_(2018-2021)+20%, and U_(2018-2021)-20%) showed that median depletion in the North Pacific Ocean will likely (>50% probability) increase; only the U_MSY harvest scenario, as expected, led to a decrease in median depletion.

- Median estimated depletion of SMA in the North Pacific Ocean will likely (>50% probability) remain above depletion at MSY in the next ten years for all scenarios except U_MSY; harvesting at U_MSY decreases depletion towards depletion at MSY.

- Model projections are based on a surplus-production model may over simplify the age-structured population dynamics and as a result could be overly optimistic.

- Next assessment 2029


Other stocks

https://isc.fra.go.jp/recommendation/index.html


Species	Stock	Bref	Fref	Stock Status and Conservation Information
Albacore tuna (*Thunnus alalunga*) 2023 (2026)	NPO	🟢	🟢	The stock is likely not overfished relative to 30%SSBcurrent, F=0 and (97.7%) 14%SSBcurrent, F=0 and overfishing relative to F45%SPR is not occurring (95.5%).
Swordfish (*Xiphias gladius*) 2023 (2028)	NPO	🟢	🟢	Stock is very likely not overfished (>99%) and overfishing is very likely not occurring (>99%) relative to adopted MSY-based RPs.
Blue marlin (*Makaira mazara*) 2021 (2026)	Pacific Ocean	🟢	🟢	No adopted RPs. Stock is likely not overfished (81%) and overfishing is likely not occurring (>90%) relative to MSY-based RPs. There is a low probability that stock status will change by 2029 under the harvest scenarios tested.
Striped marlin (*Kajikia audax*) 2023 (2027)	WCNPO	🔴	🔴	Relative to 20%SSBF=0 based reference points, the WCNPO MLS stock is very likely to be overfished (>99% probability) and is likely to be subject to overfishing (>66% probability). Reducing annual catch below 2,400 t is expected to promote recovery of the stock by 2040 or sooner, depending on the catch reduction.
Blue shark (*Prionace glauca*) 2022 (2027)	NPO	🟢	🟢	No RPs adopted. Stock is likely not overfished (63.5%))and overfishing is likely not occurring (91.9%) relative to MSY-based RPs. The stock is expected to remain above B_{MSY} for the next 10 years under all harvest scenarios except F_{MSY}.

Looking ahead

- Pacific bluefin tuna management strategy evaluation results (earlier 2025)
- Pacific bluefin tuna assessment review. Funding has been provided by the USA and this could occur as early as fall 2025.
- Billfish working group will develop a strategy to integrate recommendations from the 2024 review of the Western and Central North Pacific Ocean striped marlin assessment.
- The International Billfish Biological Sampling (IBBS) program continues to progresses toward sampling and processing goals.
- Workgroups will continue to develop an understanding of climate vulnerabilities for assessed stocks.
- ISC will continue to explore and implement open science.
- ISC plenary is currently scheduled for June 16th to 20th 2025 in Korea. This may change by a day or two.
- No assessment are scheduled for 2025.

Vinaka!

We are deeply grateful to John Holmes for his many years of service as ISC chair. Wishing him great adventures in his retirement.