



**TECHNICAL AND COMPLIANCE COMMITTEE
TWENTY-SECOND REGULAR SESSION**

23-29 September 2026

Pohnpei, Federated States of Micronesia (Hybrid)

Sharks Pacific – Position Statement

WCPFC-TCC22-2026- OP04

9 September 2026

Submitted by Sharks Pacific



POSITION STATEMENT

22nd Regular Session of the Technical and Compliance
Committee (TCC) of the Western Central Pacific
Fisheries Commission (WCPFC)

*Pohnpei, Federated States of Micronesia
September 23–29, 2026*



POSITION STATEMENT

22nd Regular Session of the Technical and Compliance Committee (TCC) of the Western Central Pacific Fisheries Commission (WCPFC) Pohnpei, Federated States of Micronesia | September 23–29, 2026

Sharks Pacific wishes to express its appreciation to the Technical and Compliance Committee (TCC) of the Western and Central Pacific Fisheries Commission (WCPFC) for the opportunity to participate in the 22nd Regular Session (TCC22). We are grateful for the chance to engage with the TCC as an accredited observer and contribute to its vital role in the sustainable management of fisheries within the Western and Central Pacific Ocean (WCPO).

The positions that follow reflect key priorities for Sharks Pacific, which we believe warrant particular technical focus and attention at this session.

OBSERVER COVERAGE

Sharks Pacific continues to strongly maintain that robust observer coverage, by human or electronic means, remains a key priority for fisheries conservation and management of all species in the WCPO, but particularly for vulnerable endangered, threatened, and protected species^[1]. The best available science suggests that data collected by observers remains critically important to ensure that scientists and managers possess the information they need to make appropriate decisions for everything from stock assessments to non-target species impacts^[2,3]. Once again, multiple analyses reviewed by SC22 indicated that low observer coverage levels on the longline fleet continue to represent a primary reason for weak scientific conclusions and equally weak scientific recommendations^[4,5,6,7,8]. In addition to science, observers play an indispensable role in monitoring and documenting compliance with key Conservation and Management Measures (CMMs) in the WCPO^[9]. Moreover, as bluntly described in one of this meeting's key working papers, "Critically, for over a decade repeated recommendations have been made to SC, TCC, and the Commission calling for an increase in observer coverage in the longline fleet in support of catch verification and bycatch monitoring, clearly indicating a strong, as yet unmet, desire for improvement," which went further to comprehensively tabulate every single time the WCPFC has called for increased coverage^[10]. Lastly, relatively recent research has also demonstrated strong social and economic support for robust observer coverage^[11]. Therefore, the WCPFC must consider securing increased observer coverage levels as a top priority, and member states must make a concerted effort to achieve that coverage.

Over 19 years ago, the WCPFC established CMM 2007-01, which specified that coverage is to be 5% of effort in each non-purse seine fishery under the jurisdiction of the Commission and shall be achieved no later than 30 June 2012^[12]. Some members and observers have repeatedly called for action to meet the commitment imposed by CMM 2007-01, while also acknowledging that the 5% coverage level for non-purse seine fisheries was only considered a starting point for a stepwise progression to more appropriate coverage. The Scientific Committee has made repeated and increasing calls over the last three years to improve observer coverage, recommending for the first time this year that the "TCC and Commission consider options to expand monitoring coverage on longline vessels... [to] at least 10% of effort [which] would allow for reasonably good estimates of bycatch for frequently caught species, and that higher levels would be necessary for reasonably good estimates for less frequently caught species, especially sea turtles and cetaceans."^[13]. An additional Working Paper submitted to SC22 quantified why 20% sampling of 100% coverage

represents the standard for securing reliable, unbiased data for fisheries management ^[14]. Despite these calls and justification for improving observer coverage based on the best science, some members continue to fail to meet appropriate coverage levels ^[15].

Additionally, the WCPFC continues to allow four different methodologies (days at sea, days fished, number of trips, and number of hooks) to calculate observer coverage rates, which does not reflect best practice and frustrates effective analysis by creating unnecessary analytical complexity. Allowing multiple methodologies of varying statistical reliability allows members to “methodology shop,” selecting the practice that results in the most favourable assessment of observer coverage, ultimately creating an unfair burden on other members using a more precise and scientifically defensible methodology. The best scientific information available suggests that “number of hooks” represents the best method for achieving multiple objectives, including effectively calculating effort and accurately assessing relatively rare bycatch events ^[16,17,18].

Furthermore, we again emphasise that the best available scientific evidence continues to indicate that even a consistently applied level of 5% coverage is statistically and functionally useless to effectively achieve most management ^[19,20] or compliance objectives ^[21,22]. Low observer coverage also leads to bias, uncertainty, and, ultimately, management failures ^[23]. Poor data quality and quantity resulting from inadequate observer coverage represents the single largest obstacle to establishing appropriate and effective conservation and management measures ^[24,25]. This was also specifically noted during SC21 when the Science Services Provider (SSP) emphasised that any improvement in stock assessments, including reductions in management uncertainty, cannot be achieved without substantial improvements in baseline data that supports the models, which includes, specifically, observer data ^[26].

Finally, we emphasise that TCC22 must recognise and prioritise the discussion contained in working paper WCPFC-TCC22-2026-06, which comprehensively and methodically accounts for years of previous discussion and requests to increase observer coverage ^[27]. Specifically, we note the statement, “for over a decade repeated recommendations have been made to SC, TCC, and the Commission calling for an increase in observer coverage in the longline fleet in support of catch verification and bycatch monitoring, clearly indicating a strong, as yet unmet, desire for improvement.” ^[28] The paper clearly and explicitly points out – through text, tables, and figures – how the WCPFC continues to fail fisheries conservation and management by failing to improve observer coverage. We particularly endorse the recommendations contained in paragraph 6 of the paper, which align with this and previous positions on observer coverage rates and methodologies.

The WCPFC must take action to meet its obligations and implement scientifically valid and consistent observer coverage levels across all longline vessels operating in the WCPFC Convention Area.

Therefore, Sharks Pacific supports and urges the TCC to:

- **Acknowledge that 5% observer coverage does not meet technical or compliance objectives necessary to properly manage most fisheries;**
- **Reaffirm calculation of observer coverage on the basis of “number of hooks” as best practice;**
- **Recommend a staged and required transition for all longline fleets to calculate observer coverage based on “number of hooks”; and**
- **Endorse a plan to increase observer coverage, by human observers or electronic monitoring, across all longline vessels operating in the WCPFC Convention Area on an annual basis to achieve 100% coverage as soon as possible.**

SHARKS AND RAYS

As key predators and vital indicators of ecosystem health, sharks and rays (collectively “elasmobranchs”) are fundamental to maintaining the balance of marine ecosystems globally and across the Western and Central Pacific Ocean (WCPO) ^[29,30,31]. However, elasmobranchs continue to represent a disproportionately large component of annual bycatch in regional fisheries and, in at least one case, a target stock that is not treated as such ^[32]. This persistent fishing impact has resulted in unsustainable mortality rates for many elasmobranchs, as evidenced by current stock assessment trends that paint a concerning picture for the future of many species ^[33,34]. While Sharks Pacific acknowledges the WCPFC's positive steps to prohibit shark lines and wire trace, along with guidelines promoting safe handling procedures and the use of line cutters to minimize trailing gear, we remain deeply concerned about the inadequate conservation and management of elasmobranchs throughout the WCPO region.

Specifically, Sharks Pacific maintains substantial concerns with other provisions of the Shark Conservation and Management Measure (CMM) 2024-05. We continue to believe provisions to “stow” wire leads when “targeting tuna and tuna-like species” create unnecessary monitoring and enforcement challenges that could be avoided by simply not possessing wire leads on board. The ambiguous stowage requirements combined with low levels of monitoring, control, and enforcement result in a largely ineffective regulatory prohibition on wire leads. Sharks Pacific believes that an appropriate prohibition should be clear and unambiguous, with no provision for wire leads to be kept onboard the vessel.

Sharks Pacific would also like to again raise the issue of continued shark finning in the WCPO longline fishery and the need to strengthen requirements in CMM 2024-05 to ensure shark finning does not occur, given multiple incidents of finning across the Pacific just within the last 6 weeks that demonstrate the failure of the current measure to address the practice ^[35,36,37,38]. Alternative measures contained in CMM 2024-05 that allow binding fins to a carcass, or corresponding numbered tags on fins and carcasses, effectively prevent effective monitoring and compliance. Further, these provisions present opportunities to high-grade fins or obscure landings of prohibited species and create other substantive opportunities that incentivize finning as evidenced in the recent MCS operation North Pacific Guard ³⁹. We concur with other NGO and member suggestions that if any fleets are able to deliver sharks with fins naturally attached (FNA) then all should be able to, leaving no legitimate need for alternative measures. Any provision that requires counting or matching fins inherently makes enforcement and compliance more difficult. The most effective solution, which is also confirmed as best practice in peer reviewed literature, is to simply require FNA, with a minimal allowance for a partial cut and fold technique to address unsubstantiated claims of crew injuries ^[40,41]. Most importantly, an FNA requirement would make the jobs of our MCS professionals easier, rather than harder, which should be a primary objective of the TCC.

Lastly, a growing body of evidence indicates that circle or “C” hooks perform better than equivalent standard “J” hooks at reducing mortality of vulnerable bycatch species, which, on balance, offer an overall conservation benefit based on the best science ^[42]. Specifically, the use of large “C” hooks results in a reduction in sea turtle mortality, particularly of highly endangered leatherback turtles ^[43-49]. Additionally, several studies indicate mortality reduction across other ETP species, including elasmobranchs, due to hook design. Elasmobranchs get hooked more frequently in the jaw (externally) with “C” hooks, rather than the gills or guts (internally), which reduces post-release mortality ^[50-53]. As a technical matter, there is strong evidence that a transition to “C” hooks would translate to improved bycatch mortality detection and mitigation as well as better overall fisheries management outcomes for most species. Furthermore, there is increasing evidence that “C” hooks

result in improved catch quality and value for target species, which should be an objective for all CCMs ^[54].

Therefore, Sharks Pacific strongly recommends and urges the TCC to:

- **Acknowledge ongoing shark finning in the WCPFC Convention Area is incentivized and exacerbated by allowing alternative measures as evidenced by recent MCS operations;**
- **Require fins naturally attached with no exceptions;**
- **Recommend revising the Conservation Management Measure for Sharks (CMM 2024-05), to explicitly prohibit carrying wire trace on board vessels operating in the WCPO; and**
- **Transition to circle or “C” hooks as best practice mitigation to increase post-release survivorship for elasmobranchs and other non-target species.**

TRANSSHIPMENT

Transshipment remains one of the most prominent weaknesses in catch documentation and verification that leads to Illegal, Unreported, and Unregulated (IUU) catch in the WCPO ^[55]. Recent disclosures in a US court case confirm not only the role that poorly regulated and monitored high seas transshipment plays in IUU, but also continuing human and labour rights violations ^[56]. Sharks Pacific continues to agree with other NGOs and some CCMs that the most simple, efficient, and effective solution to the challenges of transshipment-related IUU is to simply prohibit all at-sea transshipment and require all fishing vessels to land their catch at the nearest available designated port in the WCPO following the conclusion of fishing activity. At minimum, in the interim Sharks Pacific supports “common sense” reforms and improvements for all current at-sea transshipment practices, including:

- 100% monitoring through human observers or EM provided by a 3rd party ROP observer provider on all delivering and receiving vessels;
- mandatory 24 hours advance notification of all transshipments;
- monitoring and reporting of all non-fish transfers;
- timely delivery of all transshipment reports to the WCPFC; and
- strong sanctions for non-compliance.

We welcome the substantial work the WCPFC Secretariat has put into WCPFC-TCC22-2026-RP03 Annual Report on Transshipment Reporting. We first note that the observer coverage data it presents averages under 5% of carrier transshipments observed in 2024, and 0% in eight of twelve months in 2025, which represent a critical verification gap that the Commission cannot continue to defer. Additionally, large proportions of the high value target tuna species remain subject to high seas transshipment, with an estimated 25% of the longline catch of albacore, 40% of bigeye, and 30% of yellowfin transhipped in 2026 to date, which is roughly consistent with levels in 2025 ^[57]. Given the high value of this catch and the increased risk of IUU, the report highlights the importance of the need for effective monitoring and emphasises that observer protocols and data fields must be improved. The report also raises concerns about the independence and robustness of data, as in some cases an observer from the offloading vessel may also act as the observer for the receiving carrier vessel, which violates the requirements of CMM 2009-06 paragraph 13(c).

While we support continued Secretariat development of VMS-based verification tools (proximity, location discrepancy, cross-report discrepancy), we stress that these alternative monitoring methods cannot replace independent, on-the-water observation. Additionally, the Secretariat and CCMs must continue to prioritise completion of the ROP-IWG's review of transshipment observer minimum data

fields, including consideration of species-level (and where relevant, elasmobranch-specific) reporting fields, rather than leaving this pending indefinitely for a larger data pool. To that end, we suggest that future annual transshipment reports disaggregate elasmobranch catch and product data beyond the current blue-shark-only figures, to allow the assessment of elasmobranch exposure through transshipment.

Sharks Pacific further notes that transshipment reform continues to represent a simple and achievable step because a relatively small proportion of vessels and flags operating in the WCPO region comprise a large proportion of the transshipment activity ^[58]. Globally, 130 carrier vessels are responsible for more than 70% of RFMO-related transshipment activities, with the vast majority of transshipments conducted by China and Panama according to a recent study ^[59,60]. More specifically, a revised study conducted by the Republic of the Marshall Islands submitted this year reconfirms two vessels alone dominate transshipment in the WCPO, both flagged to Panama and one owned by a Japanese company while the other is owned by a Chinese Taipei company ^[61]. This same analysis indicates clearly that more than 40% of transshipments would not be “impracticable” to land in port based on a methodology incorporating the single largest expense for a vessel – fuel. Moreover, ownership analysis indicates some vertically integrated operators control both the carrier and fishing fleets, which reflects that the “constraint” of high seas operation is a commercial design choice, rather than a geographic limitation. Thus, at least six years of fleet-wide data show that the impracticability exception is not supported on economic or operational grounds.

Therefore, Sharks Pacific strongly recommends and urges the TCC to:

- **Endorse a pathway forward to either ban or heavily reform at-sea transshipment practices;**
- **Support 100% observer coverage provided by a 3rd party ROP observer provider on all delivering and receiving vessels engaged in at-sea transshipment;**
- **Prioritise the development and application of EM for transshipment monitoring; and**
- **Support or endorse the use of technology to verify and validate transshipment activity.**

¹ Leading Environmental NGOs Stand Together to Call for 100% Observer Coverage on Industrial Tuna Fishing Vessels (June 29, 2019) retrievable at <https://www.prnewswire.com/news-releases/leading-environmental-ngos-stand-together-to-call-for-100-observer-coverage-on-industrial-tuna-fishing-vessels-300873686.html>.

² Davies, S. (2003). Guidelines for Developing an at-Sea Fishery Observer Programme. FAO Fisheries Technical Paper 414, ISSN 0429-9345. Food and Agriculture Organization of The United Nations, Rome.

³ Domingo, A., *et al.* (2025). Sea turtles in the Atlantic and Indian Oceans, a step towards understanding bycatch and management of these species in tuna fisheries. *Biological Conservation*. 302. 10.1016/j.biocon.2025.110966.

⁴ Vidal, T., Bi, S., Heather, F. (2026). Scientific Data Available to the Western and Central Pacific Fisheries Commission. WCPFC-SC22-2026-ST-WP01, Scientific Committee, 22nd Regular Session, Western and Central Pacific Fisheries Commission, (July 13, 2026).

⁵ WCPFC. Commission Scientific Data and Data Products: Definitions, Applications and Nuances. Submitted by T. Vidal (SPC) and P. Williams (Tobesus Consulting), WCPFC-SC22-2026-ST-IP04, Scientific Committee, 22nd Regular Session, Western and Central Pacific Fisheries Commission, (July 11, 2026).

⁶ Peatman, T., Scutt Phillips, J., Potts, J. & Nicol, S. (Shearwater Analytics/SPC-OFF). WCPFC Projects 117, 118 & 126: Biological Sampling Plans for Tuna, Billfish & Sharks. WCPFC-SC22-2026-SA-IP20, Scientific Committee, 22nd Regular Session, Western and Central Pacific Fisheries Commission, (July 19, 2026).

⁷ SPC (OFF) and CSIRO. Report on Project 100D: Application of CKMR Methods to SP Albacore and Cost-Benefit Evaluation and Prioritization of CKMR to WCPFC Stocks (Tuna, Billfish, Sharks). WCPFC-SC22-2026-SA-WP11_Rev01, Scientific Committee, 22nd Regular Session, Western and Central Pacific Fisheries Commission, (July 24, 2026).

⁸ WCPFC. Coverage Levels for Operational Data Fields Submitted to the WCPFC. Submitted by E. Loganimoce & F. Heather (SPC-OFF), WCPFC-SC22-2026-ST-IP02, Scientific Committee, 22nd Regular Session, Western and Central Pacific Fisheries Commission, (July 13, 2026).

⁹ Palma, M.A.E. (2010). Promoting Sustainable Fisheries: The International Legal and Policy Framework to Combat Illegal, Unreported and Unregulated Fishing. Volume 6 of Legal Aspects of Sustainable Development, ISBN 9789004175754. Martinus Nijhoff Publishers, p. 142.

¹⁰ WCPFC. "Available Data for Verifying Compliance in the Compliance Monitoring Scheme." 18 Aug. 2026, meetings.wcpfc.int/node/32918. Working paper WCPFC-TCC22-2026-06.

¹¹ Kim, Y., *et al.* (2025). Data-Based Analysis on the Economic Value of Fishery Observer Programs in International Fisheries Management: Insights from Korea's Distant Water Fisheries. *Water*. 17. 133. 10.3390/w17010133.

¹² WCPFC, *Conservation and Management Measure for the Regional Observer Programme*, at 9, CMM 2007-01 (Dec. 2-7, 2007), <https://www.wcpfc.int/doc/cmm-2007-01/conservation-and-management-measure-regional-observer-programme> [Superseded by CMM 2018-05, which consolidated other observer related issues into a single measure].

¹³ WCPFC, Outcomes Document, Scientific Committee Twenty-Second Regular Session, at 4, paragraph 13 (August 27, 2026).

¹⁴ Brown, Christopher J., *et al.* (2026). Accurately Estimating Catch: An Illustration of the Effects of Bias in Independent Monitoring of Fisheries. Submitted by The Nature Conservancy and the University of Tasmania, WCPFC Scientific Committee, Twenty-Second Regular Session, Working Paper WCPFC-SC22-2026-ST-WP09 Rev.01.

¹⁵ WCPFC, Status of Observer Data Management, WCPFC-SC22-2026-ST-IP03_Rev02, at 19-21, Tables 3 and 4 (August 17, 2026).

¹⁶ Dietrich, K. *et al.* (2007). Best Practices for the Collection of Longline Data to Facilitate Research and Analysis to Reduce Bycatch of Protected Species, NOAA Technical Memorandum NMFS-OPR-35 March 2007. at 25, March 2007. ("Fishing effort can be derived from information collected on number of hooks deployed or retrieved. The number of hooks deployed was ranked as critical or preferred by 81% of data user[s]...")

¹⁷ IATTC (2019), Scientific Advisory Committee, SAC-10-04 – Longline observer program reports, at 2 (13-17 May 2019) ("Number of hooks is considered a more accurate measure of longline effort.")

¹⁸ IATTC (2019). Scientific Advisory Committee, SAC-10 INF-H - Standardization of Reporting Formats and Effort Reporting for Longline Fisheries (Resolution C-11-08), at 3, (13-17 May 2019) ("...number of hooks is the most precise, and is the standard metric used both by the other tuna RFMOs and by the IATTC for scientific purposes.")

¹⁹ Lawson, T. (2003). Observer coverage rates and the accuracy and reliability of estimates of CPUE for offshore longline fleets targeting South Pacific albacore. Working Paper SWG-4. Sixteenth Meeting of the Standing Committee on Tuna and Billfish, 9–16 July 2003, Mooloolaba, Queensland, Australia.

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- ²⁰ Lawson, T. (2004). Observer coverage rates and reliability of CPUE estimates for offshore longliners in tropical waters of the Western and Central Pacific Ocean. Working Paper SWG-4, Seventeenth Meeting of the Standing Committee on Tuna and Billfish, 9-18 August 2004, Majuro, Republic of Marshall Islands.
- ²¹ Benoit, H., *et al.* (2009) Can the data from at-sea observer surveys be used to make general inferences about catch composition and discards? *Can. J. Fish. Aquat. Sci.* 66: 2025-2039.
- ²² Babcock, E., *et al.* (2003). How Much Observer Coverage is Enough to Adequately Estimate Bycatch? Pew Institute for Ocean Science, Miami, FL, and Oceana. Washington.
- ²³ Gilman, E. *et al.* (2018). Meeting the objectives of fisheries observer programs through electronic monitoring. 10.13140/RG.2.2.28000.99846.
- ²⁴ WCPFC, Summary of bycatch in WCPFC longline fisheries at a regional scale, 2003–2023. WCPFC-SC21-2025/ST-WP-09, ([recommendation to] note the difficulties in robust estimation of longline catches from observer data, particularly for rarely caught species, given the low levels and imbalanced nature of observer coverage.) (July 21, 2025).
- ²⁵ *Supra* note 13.
- ²⁶ WCPFC, Outcomes Document, Scientific Committee Twenty-First Regular Session, at 4 (September 10, 2025)
- ²⁷ “Available Data for Verifying Compliance in the Compliance Monitoring Scheme.” WCPFC-TCC22-2026-06, WCPFC Meetings, Western and Central Pacific Fisheries Commission, 18 Aug. 2026, meetings.wcpfc.int/node/32918.
- ²⁸ *Id* at 2.
- ²⁹ Su, H. *et al.* (2025). What can we learn from the loss of sharks?. *Trends in Ecology & Evolution*. 40. 10.1016/j.tree.2025.04.012.
- ³⁰ Dedman, S. *et al.* (2024). Ecological roles and importance of sharks in the Anthropocene Ocean. *Science* (New York, N.Y.). 385. adl2362. 10.1126/science.adl2362.
- ³¹ Ahilan, B. *et al.* (2021). Ecological Importance of Sharks. *Journal of Aquaculture in the Tropics*. 36. 31-38. 10.32381/JAT.2021.36.1-4.4.
- ³² Peatman, T., *et al.* (2023). Estimating trends and magnitudes of bycatch in the tuna fisheries of the Western and Central Pacific Ocean. *Fish and Fisheries*, 24, 812–828. <https://doi.org/10.1111/faf.12771>.
- ³³ Edgar, G., *et al.* (2024). Stock assessment models overstate sustainability of the world's fisheries. *Science* (New York, N.Y.). 385. 860-865. 10.1126/science.adl6282.
- ³⁴ Pacoureau, N., *et al.* (2021). Half a century of global decline in oceanic sharks and rays. *Nature*. 589. 567-571. 10.1038/s41586-020-03173-9.
- ³⁵ See Selby, Kaya. "Tuvalu Uses Conservation NGO to Arrest Chinese Longliner." *RNZ*, 27 July 2026, www.rnz.co.nz/news/pacific/585350/tuvalu-uses-conservation-ngo-to-arrest-chinese-longliner.
- ³⁶ See also “Shark Finning, Endangered Species Found in High Seas Boardings.” *National Fisherman*, 11 Aug. 2026, www.nationalfisherman.com/shark-finning-endangered-species-found-in-high-seas-boardings.
- ³⁷ Panama Authorities Seize a Container with 109 Sacks of Shark Fins." *Newsroom Panama*, 16 Aug. 2026, newsroompanama.com/2026/08/16/panama-authorities-seize-a-container-with-109-sacks-of-shark-fins/.
- ³⁸ "Kiribati Detains Chinese Ship Over Banned Shark Fin." *Taipei Times*, 26 Aug. 2026, www.taipeitimes.com/News/world/archives/2026/08/26/2003863165.
- ³⁹ Fisheries and Oceans Canada. "Operation North Pacific Guard Strengthens Relations with Japan, Monitors High Seas Fisheries during Pacific-Wide Patrol." *Government of Canada*, 6 Aug. 2026, www.canada.ca/en/fisheries-oceans/news/2026/08/operation-north-pacific-guard-strengthens-relations-with-japan-monitors-high-seas-fisheries-during-pacific-wide-patrol.html; see also McMillan, Anna. "Shark Finning, Dolphin Harpooning Reported After Canadian Crackdown on High Seas." *CTV News Vancouver Island*, 6 Aug. 2026, vancouverisland.ctvnews.ca/vancouver/vancouver-island/article/shark-finning-dolphin-harpooning-reported-after-canadian-crackdown-on-high-seas.
- ⁴⁰ Ziegler, I. (2024). Fins Naturally Attached, the globally acknowledged best practice to prevent finning REV 1 IOTC WPEB 2023.
- ⁴¹ Gutteridge, A., *et al.* (2024). How are appropriate performance levels developed for MSC certification? A case study assessing shark finning, *Marine Policy*, Volume 163, 106119, ISSN 0308-597X.
- ⁴² Inter-American Tropical Tuna Commission. (2025) Chair's Report: 2nd Circle Hook Workshop, 28–30 April 2025. IATTC, Apr. 2025. <https://www.iattc.org/en-US/Event/DetailEvent/Event-WSHKS-02>
- ⁴³ Andraka, S., *et al.* (2013). Circle hooks: developing better fishing practices in the artisanal longline fisheries of the Eastern Pacific Ocean. *Biol Conserv.*; 160:214-24;

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- ⁴⁴ Curran, D., *et al.* (2011). Effects of circle hooks on pelagic catches in the Hawaii-based tuna longline fishery. *Fish Res.*; 109:265-75
- ⁴⁵ Foster D., (2012). Evaluation of hook and bait type on the catch rates in the western North Atlantic Ocean pelagic longline fishery. *Bull Mar Sci.* 2012; 88:529-45
- ⁴⁶ Huang, H., *et al.* (2016). Influence of hook type on catch of commercial and bycatch species in an Atlantic tuna fishery. *Mar Policy.*; 65:68-75
- ⁴⁷ Pacheco J., *et al.* (2011). A comparison of circle hook and J hook performance in a western equatorial Atlantic Ocean pelagic longline fishery. *Fish Res.*; 107:39-45
- ⁴⁸ Promjinda, S., *et al.* (2008). Efficiency of the circle hook in comparison with J-hook in longline fishery. Consortium for Wildlife Bycatch Reduction. <https://www.bycatch.org/articles/efficiency-circle-hook-comparison-j-hook-longline-fishery>
- ⁴⁹ Sales G., *et al.* (2010) Circle hook effectiveness for the mitigation of sea turtle bycatch and capture of target species in a Brazilian pelagic longline fishery. *Aquat Conserv Mar Freshw Ecosyst*, 20:428-36.
- ⁵⁰ Saïdi, B. *et al.* (2020). Are circle hooks effective management measures in the pelagic longline fishery for sharks in the Gulf of Gabès?. *Aquatic Conservation: Marine and Freshwater Ecosystems*. 30. 10.1002/aqc.3315.
- ⁵¹ Reinhardt, J. *et al.* (2017). Catch rate and at-vessel mortality of circle hooks versus J-hooks in pelagic longline fisheries: A global meta-analysis. *Fish and Fisheries*. 19. 10.1111/faf.12260.
- ⁵² Gilman, E. *et al.* (2015). A cross-taxa assessment of pelagic longline by-catch mitigation measures: Conflicts and mutual benefits to elasmobranchs. *Fish and Fisheries*. 17. 10.1111/faf.12143.
- ⁵³ Cosandey, G. *et al.* (2012). The Effect of Circle Hooks on Shark Catchability and At-Vessel Mortality Rates in Longlines Fisheries. *Bulletin of Marine Science*. 88. 10.5343/bms.2011.1054.
- ⁵⁴ Vina MA, Christie P, Pollnac RB, Gaibor N, Voorhies K and Jenkins LD (2026) From acceptance to support: fishers' pathways to adopting circle hooks to reduce sea turtle bycatch. *Front. Mar. Sci.* 13:1823438. doi: 10.3389/fmars.2026.1823438.
- ⁵⁵ See e.g. Boerder K., et al, Global hot spots of transshipment of fish catch at sea. *Science Advances* 25 Jul 2018: Vol. 4, no. 7, DOI: 10.1126/sciadv.aat7159: See also FAO. 2023. Voluntary Guidelines for Transshipment/Directives volontaires relatives au transbordement/Directrices voluntarias para los transbordos. Rome. <https://doi.org/10.4060/cc5602t>
- ⁵⁶ Liliansa, Dita. "Akhmad, et.al v Bumble Bee Foods: Corporate Accountability for Forced Labour in High Seas Fisheries – Preliminary Observations." *Opinio Juris*, 3 June 2026, opiniojuris.org/2026/06/03/akhmad-et-al-v-bumble-bee-foods-corporate-accountability-for-forced-labour-in-high-seas-fisheries-preliminary-observations/.
- ⁵⁷ WCPFC TCC22, Annual Report on Transshipment Monitoring, WCPFC-TCC22-2026-RP03, (July 3, 2026).
- ⁵⁸ See e.g. G.A. Petrossian, B. Barthuly, and M.C. Sosnowski, "Identifying Central Carriers and Detecting Key Communities Within the Global Fish Transshipment Network" (2022), <https://doi.org/10.3389/fmars.2022.798893>.
- ⁵⁹ *Id.*
- ⁶⁰ See also The Pew Charitable Trusts, "Most Global At-Sea Transshipment Involves a Small Group of Key Carriers," (2023), <https://www.pewtrusts.org/-/media/assets/2023/04/global-at-sea-transshipment.pdf>.
- ⁶¹ WCPFC TCC22, High-seas transshipment in the Western and Central Pacific Ocean: fleet structure, vessel economics, and the impracticability assessment, TCC22-2026/WCPFC-TCC22-2026-DP06, at 12, Table 1 (September 07, 2026).