

TTRAG 47, 21-22 July 2026

Meeting Record

TTRAG – Tropical Tuna Resource Assessment Group

CHAIR: Dr Cathy Dichmont

Date: 21-22 July 2026

Venue: Brisbane IBIS Styles

Attendance:

Members:

- Dr Ashley Williams (Scientific Member)
- Mr Gary Heilmann (Industry Member)
- Dr Ian Knuckey (Scientific Member)
- Dr Julian Pepperell (Scientific/ Recreational Member)
- Dr Lara Ainley (AFMA Member)
- Mr Pavo Walker (Industry Member)
- Dr Rich Hillary (Scientific Member)
- Dr Robert Curtotti (Economics Member)

Invited Participants:

- Mr David Ellis (Tuna Australia)
- Mr Terry Romaro, OAM (Tuna Australia/WTBF)
- Dr Denham Parker (CSIRO)
- Dr Laura Tremblay-Boyer (CSIRO)
- Dr Don Bromhead (ABARES)
- Mr Conor Clayton (ABARES)
- Mr Joshua Esman (UniSC)
- Ms Lisa Walton (Tuna Australia)
- Dr Kylie Scales (UniSC)

Observers:

- Ms Selina Stoute (AFMA)
- Ms Stephanie Blake (ABARES)
- Ms Elissa Mastroianni (AFMA)
- Mr Shayer Alam (AFMA)
- Mr Richard Cottrell (ABARES)

Apologies: Dr Rohan Currey (Scientific Member)

Executive Officer: Mr Robbie Wood (AFMA)

Agenda:

1. Preliminaries: welcome and apologies, declaration of interests, adoption of agenda, and actions arising from previous meetings	Chair
2. Member Updates	Members
3. Swordfish Harvest Strategy Review – MSE results and advice for the harvest strategy	CSIRO
4. ETBF and WTBF Fishery Indicators	CSIRO
6. Project Update: Improving the management of wildlife interaction in pelagic longline fisheries	Tuna Australia
5. Project Update: Factors influencing turtle interaction rates in the ETBF	ABARES
7. Project Update: Leatherback Turtle Research	UniSC
8. Project Update: Coral Sea Hook Trial Research	UniSC
9. Environmental Risk Management (ERM) Strategy for the ETBF and WTBF	AFMA
13. Project Update: Close-Kin Mark-Recapture Design Study – Swordfish Stock Structure	CSIRO
10. ARC Research Priorities	AFMA
11. TTRAG Priorities and Meeting Schedule	AFMA
12. Other Business	Chair

Agenda Item 1: Preliminaries

1. The Chair opened the meeting with an Acknowledgement of Country.
2. The Chair welcomed all participants and noted the apology from Dr Rohan Currey (Scientific Member). The RAG adopted the draft agenda (**Attachment A**), noting that the running order was adjusted so that agenda item 13 (Close-Kin Mark-Recapture Design Study) was considered on Day 1 and agenda item 5 (Factors influencing turtle interaction rates in the ETBF) on Day 2.
3. Declared conflicts of interests at TTRAG 47, including any updates to declared interests identified by members, are recorded in the register of interest at **Attachment B**.
4. The RAG noted, in line with Section 4.1.4 of *Fisheries Administration Paper 12 – Resource Assessment Groups*, the requirement for all meeting participants to declare relevant interests, not limited to pecuniary gain, regarding all agenda items proposed for TTRAG 47. The Chair asked members who declared potential conflicts to leave the meeting, pending discussion by the other members on how conflicts of interest will be managed during the meeting.
5. The RAG managed conflicts of interest on an item-by-item basis. For agenda item 3 (Swordfish Harvest Strategy Review), industry members with conflicts or perceived conflicts were included in the discussion and development of advice, followed by a separate session of non-conflicted members. For agenda item 10 (research priorities), the finalisation of priorities was undertaken by non-conflicted members only. For agenda items 4 (ETBF and WTBF Fishery Indicators) and 9 (Environmental Risk Management (ERM) Strategy for the ETBF and WTBF), the RAG was satisfied that industry members could participate throughout.
6. The RAG discussed the status of action items from previous meetings, noting several items that are now considered completed. An updated summary of action items and new action items from TTRAG 47 is at **Attachment C**.

Agenda Item 2. Member Updates

7. The RAG noted updates from AFMA (taken as read), industry, recreational and scientific members regarding the Eastern Tuna and Billfish Fishery (ETBF) and the Western Tuna and Billfish Fishery (WTBF).

AFMA Management update

8. The AFMA member highlighted ongoing examination of the seabird management arrangements, particularly the discharge of offal during hauling; a new operator now active in the WTBF; and the outcomes of the May 2026 IOTC Commission meeting.
9. The RAG noted the new IOTC yellowfin tuna resolution which does not impose an effective catch limit on Australia, but establishes a threshold above which, if exceeded in two consecutive years, the Commission would consider assigning Australia a catch limit equal to the lowest current limit in the resolution (that of Japan, approximately 4,000 t). The implications of the resolution will be considered further when TACCs are considered at the next meeting of TTRAG.

Industry updates

10. Industry members reported that operating conditions remain very difficult. Fuel prices have been highly volatile, spiking to around \$3.50 per litre before falling to among the lowest levels seen in recent years, creating significant uncertainty for operational decision-making. Recent increases to the minimum wage, together with superannuation, workers' compensation and payroll costs, are adding materially to labour costs, with flow-on cost increases estimated well above the headline rate.
11. The oversupply of southern bluefin tuna (SBT) on the domestic market, driven by an extended, effectively year-round SBT fishery, continues to depress prices for small tropical tuna landed at Mooloolaba, impacting the economic viability of the tropical ETBF sector. Weak exchange rates and softening export markets have compounded these pressures, with the small-fish domestic market particularly affected.
12. In the WTBF, the persistent challenge remains the distance from the prime catching areas of the north-west shelf to market and the associated loss of product quality. Industry, with the assistance of Tuna Australia, continues to pursue options including ultra-low-temperature vessels and access for foreign (including Japanese) vessels to catch Australia's western tuna, but progress is constrained by visa processing times for foreign crew. Industry emphasised the value of retaining access rights to the western resource for future use, notwithstanding low current activity.
13. Industry raised the increasing pressure of marine spatial squeeze on access to fishing areas, including from renewable and non-renewable energy infrastructure, communications cabling, defence activity, FADs and shipping, and the forthcoming review of Coral Sea and Temperate East Marine Parks. The RAG noted industry concerns that the shift toward 30% high-protection zoning under the "30 by 30" framework, and the absence of a clear displaced-effort funding model, would further compress the area available to the fishery.
14. Industry also advised that the reassessment of the ETBF for Marine Stewardship Council (MSC) accreditation for tropical tunas is nearing completion, and that the SBT fishery is entering its first-year audit, with a key challenge being the limited availability of chain-of-custody arrangements able to handle chilled (rather than ultra-low-temperature frozen) fish to access premium MSC markets.

Recreational fishing update

15. The RAG noted an update from the recreational member. The striped marlin recreational fishery had another exceptional season, with the highest number of striped marlin tagged on record (approximately 2,750 in the previous season, with the season just finished expected to be larger); the concentration of fish moved rapidly down the coast into northern Tasmania, and 34 tagged striped marlin were recaptured during the season, mostly over short distances. For the second consecutive year, the expected recruitment of juvenile black marlin migrating down the coast did not occur. Blue marlin remained a solid but not record season, notable for the appearance of very small individuals, including the smallest blue marlin (approximately 25 kg) recorded off eastern Australia. Continued good recreational catches of swordfish (daytime deep-drop fishery off Victoria and Tasmania), yellowfin tuna and southern bluefin tuna were reported, with the increasingly mobile, trailer-boat-based nature of the recreational fishery noted as worthy of future study.

Scientific member update

16. The RAG noted with concern that CSIRO has undergone a significant restructure involving an approximate 20% reduction in science capacity.

Agenda Item 3. Swordfish Harvest Strategy Review – MSE results

17. The RAG noted the following structure of the swordfish harvest control rule (HCR) that was recommended at TTRAG 46 (March 2026):
 - a. The recent HCR CPUE target of 0.76 (2015-2024 reference period) should be used as it provides a better reflection of the recent changes to the standardisation methodology and dynamics of the fishery, noting that stock status is good, the target is achievable, and the HCR should respond appropriately if recruitment fails, migration changes or localised depletion occurs. Therefore, the RAG agreed that the recent HCR CPUE target (0.76) should be used as the new target in the harvest strategy.
 - b. The buffer zone width should be retained at $\pm 20\%$ around the HCR CPUE target, consistent with the original rationale based on CPUE observation error of approximately Coefficient of Variation (CV) = 0.15.
 - c. The std-CPUE index for the HCR should continue to be calculated as the most recent 4-year moving average.
 - d. The Total Allowable Commercial Catch (TACC) setting schedule should be aligned with the three-year cycle used for other Eastern Tuna and Billfish Fishery (ETBF) species.
 - e. The symmetric change limiting rule should be retained over an asymmetric rule.
 - f. The modified harvest strategy undercatch feature should be retained, noting the fishery has been catching approximately 70% of the TACC in recent years.
 18. CSIRO presented the final results of the swordfish harvest strategy management strategy evaluation (MSE) testing, addressing three key scenarios:
 - a. To test 10%, 20% and 30% maximum TACC change limiting rules (MCLR) per three-year TACC setting cycle.
 - b. Robustness of the HCR to alternative implementation, recruitment, catch levels (including constant catch scenarios) and regional harvest assumptions.
 - c. Sensitivity to alternative migration scenarios, including zero migration, and low (low 25th) and high (high 75th) migration assumptions.
- a. To test 10%, 20% and 30% maximum TACC change limiting rules per three-year TACC setting cycle.**
19. Of the 10%, 20% and 30% MCLR options tested, the 10% and 20% options delivered similar biomass outcomes, but noting that the final TACC under the 10% option was lowest.

20. The 20% and 30% options resulted in similar catches, both with a higher final TACC than the 10% option.
21. The 30% option had the highest variability in terms of catch, AAV% (annual average variation in the TACC) and lower mean TACC changes.
22. The RAG agreed that the 30% option was not suitable due to this higher variability and noted a preference from industry members for the 10% option producing a less variable TACC over time.
23. The RAG requested additional testing where the starting TACC was set to 1,047 t (the current TACC), 1,250 t (the TACC in 2020, prior to the implementation of the modified swordfish harvest strategy) and 1,550 t (the TACC when it was first introduced), with the MCLR set to both 10% and 20%.
24. In presenting these results, the RAG noted that, under worst case scenarios (permanent low recruitment and zero migration), it was apparent that the HCR was not sensitive to these scenarios.

b. Robustness of the HCR to alternative implementation, recruitment, catch levels (including constant catch scenarios) and regional harvest assumptions.

25. The RAG noted that by changing the target CPUE and TACC setting schedule, the previously agreed base case has been superseded, and robustness tests were undertaken using a new reference case (Ref_3yrTAC) for comparison.
26. The RAG noted that, in the reference case, no scenario tested resulted in depletion below 20% of unfished biomass for Region 1, Region 2 or the combined area, and that the stock sat at or around the target reference point in all scenarios.
27. The RAG noted that doubling the Region 2 catch resulted in the greatest depletion in both regions, and that while the harvest strategy responds it does not do so as strongly as would be needed in Region 2. There is therefore an incentive for Australia to engage with the WCPFC on the management of swordfish catch in Region 2.
28. The RAG agreed that, under the worst-case scenario (permanent low recruitment as the worst-case scenario), the constant catch scenarios carry greater risk for the stock sustainability and that the dynamic HCR is considerably more robust.

c. Sensitivity to alternative migration scenarios, including zero migration, and low (low 25th) and high (high 75th) migration assumptions.

29. Across all migration scenarios using the HCR, the depletion distributions were broadly similar and the probability of depletion falling below 40% and the Limit Reference Point (20%) was zero for all areas (Region 1, Region 2 and combined).
30. The RAG noted that migration between Region 1 and Region 2 remains highly uncertain and the MSE is relatively sensitive to this parameter. Where migration was low, Region 1 behaves more as an independent sub-stock and the TACC declines. As migration increases, TACCs increase.
31. The RAG recalled the value of the FRDC funded close-kin mark recapture project in reducing this uncertainty in future.

Recommendations

32. The RAG considered that the agreed reference case for the HCR provides a robust basis for setting the ETBF TACC under the assumptions tested.
33. The RAG provided advice that there are 4 suitable scenarios and 4 worst case scenarios to be considered for the HCR, recognising that the Tropical Tuna Management Advisory Committee (TTMAC) and the AFMA Commission should consider the relative scientific advice alongside the preferences and needs of industry.
34. The RAG recommended four candidate HCR options, being all combinations of the following options with the agreed reference case (noting the changes from the previous base case):
 - a. A starting TACC (for the HCR) at 1,047 t as the current TACC; or at 1,250 t being the TACC in 2020 prior to implementation of the modified swordfish harvest strategy.
 - b. A MCLR at 10% or 20%, noting that there was very little difference in the outcomes for the stock but that 10% provided greater stability and certainty for industry.
35. Four further scenarios were undertaken which are the same 4 options as above but for the worst-case scenario. In these cases, using the HCR maintains the stock above the depletion limit reference point (20%) and above 40% for Region 1, 2 and combined. These scenarios are provided as they address the migration uncertainty and potential climate risk, but are seen as extreme.
36. The RAG emphasised the need to monitor annually the potential for long term recruitment failure through relevant indicators (recruitment, nominal CPUE, under catch, size distribution and catch relative to Region 1 and Region 2).
37. The RAG agreed that such monitoring should be accounted for in both the exceptional circumstances and the annual indicator approach to ensure appropriate consideration of any new information that may warrant alternative advice.
38. Should new information arise, the RAG recommended that a meeting of TTRAG be called to determine what actions, if any, should be undertaken.
39. The RAG agreed that the standardised CPUE is not required on an annual basis, and that consideration of the standardised CPUE is aligned with the three-year TACC setting cycle.

Agenda Item 4. ETBF and WTBF Fishery Indicators

40. The RAG noted that, under the multi-season TACC-setting procedures, 2026 is a non-TACC-setting year for albacore, bigeye and yellowfin tuna in the ETBF and for all quota species in the WTBF, and that a reduced set of indicators was therefore reviewed for those species. Broadbill swordfish and striped marlin in the ETBF are managed under separate harvest strategies and all fishery indicators, including standardised CPUE, continue to be reviewed annually.
41. The RAG noted the data summaries (Attachments 4A–4E, taken as read), updated with an additional 12 months of logbook catch-and-effort and size-monitoring data. The RAG further noted **that, since** the September 2025 indicators review, the IOTC had considered an updated bigeye tuna stock assessment (December 2025). **No new WCPFC assessments were yet available, with** yellowfin and bigeye assessments expected at the WCPFC Scientific

Committee in August 2026. The RAG noted a slight decline in active vessel numbers but an increase in fishing days, sets per vessel and total hooks, partly reflecting year-round SBT activity off Hobart, and requested that the effort summary tables be reinstated in future reporting.

42. Retained catch in 2025 was broadly similar to the previous year, with a slight increase in albacore, a decline from the exceptional 2024 yellowfin catch and a continued slight increase in SBT, and a general reduction in average weight reflecting a greater number of smaller fish.
43. The RAG noted the continuing increase in discards, particularly of yellowfin tuna, and discussed high discard levels for striped marlin, SBT and albacore, attributing SBT discards to the release of small fish given very low prices, live-and-vigorous releases and shark-damaged fish and noting that improved reporting under electronic monitoring likely contributes to the apparent trend.
44. CSIRO noted an increase this year in the number and proportion of sets automatically excluded from the standardisation and trend analyses owing to missing or out-of-bounds covariate data and undertook to keep this under review.

Standardised CPUE – swordfish and striped marlin

45. The RAG considered the standardised CPUE for swordfish (by size class) and striped marlin, noting no change to the standardisation method this year (as agreed at TTRAG 38). The swordfish prime index has increased over the last two years but remains just below its long-term average.
46. Discussion of the influence plots confirmed the year-quarter interaction, clustering (targeting) and light-stick variables as influential, while the environmental covariates had limited influence, consistent with previous years.

Recommendations

47. The RAG endorsed the swordfish prime-size standardised CPUE index for use in applying the modified swordfish harvest strategy, and the striped marlin standardised CPUE for the striped marlin constant-catch approach, at the next TACC-setting meeting.
48. Per the multi-season TACC procedures, the RAG advised that nothing in the updated fishery indicators for the ETBF tropical tunas or the WTBF quota species had changed significantly in a way that would warrant alternative TACC advice for those species ahead of the scheduled TACC-setting meeting.

Agenda Item 6: Project Update – Improving the management of wildlife interactions in pelagic longline fisheries

49. Ms Lisa Walton (USC) presented, on behalf of Tuna Australia, research on marine turtle interactions with the ETBF, forming a chapter of a broader FRDC-funded report on wildlife interactions. The RAG noted the work is a preliminary, scoping assessment intended to identify readily actionable patterns, complementary to the more detailed ABARES research presented under agenda item 5.

50. The analysis used the most recent 10 years of fishery data and examined only sets in which marine turtles were caught; the RAG noted that, as a result, the patterns identified cannot be interpreted as absolute interaction risk.
51. The RAG noted the following key points:
- a. the fishery interacts with all six marine turtle species found in Australian waters, most commonly leatherback, green and loggerhead turtles;
 - b. the significant majority of turtles are released alive and in good condition, most pronounced for leatherbacks, likely reflecting body size;
 - c. hard-shell species interact predominantly in summer and autumn and further north, while leatherback interactions peak from May and remain elevated through winter and extend much further south; and
 - d. few clear patterns emerged from gear and setting variables, although greater hook numbers were associated with a higher likelihood of green and loggerhead interactions and longer soak times with leatherback interactions.
52. The RAG noted the recommendations arising from this chapter, including continuing current best-practice mitigation (such as circle hooks), completing the gear-specific logbook fields, maximising gear removal (including through long-handled line cutters), prioritising monitoring and mitigation for leatherbacks (critically endangered) and greens, and undertaking further research on operational practices (currently underway at ABARES).
53. The RAG cautioned that conclusions drawn from interaction-only data should be treated carefully, and that variables such as bait type and gear should ideally be assessed against the whole-of-fishery distribution of effort, an approach being taken in the ABARES analysis.
54. The RAG noted that a number of the literature-based recommendations (for example on bait type) reflect widely accepted bycatch-mitigation research rather than this study specifically.

Agenda Item 5. Project Update – Factors influencing turtle interaction rates in the ETBF.

55. Mr Conor Clayton (ABARES) presented its investigation into the factors influencing the capture of marine turtles in the ETBF, undertaken to inform AFMA's response to the Ecological Risk Assessment (ERA). The RAG noted the work involves a substantial data-processing exercise using logbook data from 2015–16 to 2024 and a global literature review, and that the presentation focused on the modelling approach and data treatment, seeking the RAG's input.
56. The RAG provided feedback on the analysis, including on the treatment and filtering of variables (such as hooks per unit length, hooks between floats as a depth proxy, soak time, light sticks and bait), and emphasised the importance of presenting results in real-world, interpretable terms (for example expected numbers of interactions per unit of effort) rather than log-odds or odds ratios, and of using realistic baselines when holding variables constant so that scenarios remain plausible.
57. The RAG noted the green turtle has recently been reclassified as Least Concern by the IUCN.

58. ABARES advised that the final report will place the modelling in the broader context of the conservation and population status and biology of the species, will explore interactions between factors (such as bait, light sticks and night soaking), and is intended to progress toward predictive models able to estimate the likely effect on interactions of changing particular factors.
59. ABARES noted its interest in exploring the use of metier (fishing-strategy) indicators, in collaboration with CSIRO, and that a vessel-level factor is also included in the models. The RAG discussed how such information could help target future observer or tagging effort and inform the residual-risk process, noting that the ERA is necessarily coarse and that catchability varies across the area of fishery–turtle overlap (for example, low catchability in the northern fishery associated with short sets, no squid bait and no light sticks).

Agenda Item 7: Project Update – Leatherback Turtle Research

60. Ms Lisa Walton (USC) presented research examining the oceanographic environments and seascapes that drive leatherback turtle interactions in the ETBF, noting the serious conservation status of the Western Pacific leatherback population, estimated at around 1,400 individuals and projected to decline, and comprising two sub-populations, one of which migrates down the east coast of Australia.
61. The research used 14 years of fishery logbook and wildlife-interaction data together with BRAN ocean-model data, applying an ensemble random-forest method designed for rare-event bycatch data.
62. Across the 14 years there were 346 leatherback interactions over approximately 65,000 fishing days. The RAG noted that lunar illumination was the single most important variable determining leatherback interaction risk, followed by the meridional (north–south) current velocity and sub-surface variables (temperature at 200 m depth and mixed-layer depth), with sub-surface conditions more important than sea-surface temperature.
63. Interaction risk was found to be highly variable in space and time, elevated on brighter moon phases and associated with warm-core features and eddies of the East Australian Current.
64. The RAG noted that the highly dynamic nature of the risk makes static spatial or temporal closures to fishery areas difficult, and that the work points toward a dynamic, operational approach such as providing periodic risk maps or forecasts to industry to support voluntary avoidance or additional precautions.
65. The RAG thanked Ms Walton for the presentation and noted the paper has been published and discussed the difficulty of identifying reliable leatherback-avoidance measures for this region.

Agenda Item 8: Project Update – Coral Sea Hook Trial Research

66. Mr Josh Esman (USC) presented an update on the Coral Sea hook trial research, examining the interaction and condition outcomes for marlin and sharks associated with the 500-hook limit and longer line sections during the unrestricted period.
67. The RAG recalled that the trial records catch by 100-hook increments beyond the 0–500 “control” section.

68. The RAG noted the preliminary findings: black marlin catch is concentrated in the 0–500 hook section and in the migration period; blue marlin catch is more evenly distributed across line sections; and shark catch is higher in the mid-year (unrestricted) period and rarely coincides with the migration period.
69. Condition at haul was generally good for marlin and sharks across line sections, but the presenter was unable to model condition owing to the very small number of dead individuals.
70. Modelling limitations included the rarity of interactions (zero-inflation and over-dispersion), limited sample size for the longer line sections (264 deployments of the control section, good representation to around 1,100 hooks, dropping sharply thereafter), and a strong trip-level random effect indicating unmeasured sources of variation.
71. The RAG provided feedback, emphasising that the key management question concerns the marginal effect of additional hooks (and the associated soak time and mortality) rather than total catch, and that both the marginal (per-additional-hook) and location-specific (per-hook) analyses are of interest.
72. The RAG advised caution in using a cyclic smoothing for seasonality where there is no data for the restricted period (to avoid averaging out real trends). The RAG supported the proposed move to a hurdle (presence/absence then magnitude) modelling framework to address the identified issues, and encouraged the planned linking of trial trip identifiers to AFMA logbook and ocean-model data and the incorporation of soak time via haul order.
73. The RAG thanked Mr Esman for the presentation and looked forward to further results, including the condition analysis, at a future meeting.

Agenda Item 9: Environmental Risk Management (ERM) Strategy for the ETBF and WTBF

74. AFMA introduced the ERM item, recalling that the updated Ecological Risk Assessments (ERA) identified seven high-risk species in the ETBF and three in the WTBF, and that under [Fisheries Management Paper 14](#) AFMA must review and, if necessary, update the ERM strategy for each fishery, with the operational levers being the Australian Tuna and Billfish Fisheries bycatch and discard workplan, AFMA data strategy and research priorities.
75. The RAG was asked to summarise, for each identified high-risk species, a common understanding of the ERA results and the key drivers of the high-risk scores, and to provide advice on the drivers that could reasonably be addressed through management of the fishery, the effectiveness of existing management and mitigation controls, and recommended actions or research priorities. The RAG progressed a common understanding of the drivers and considered existing mitigation to be effective in managing the life status of interacted animals but concluded it did not yet have sufficient information to provide advice on recommended management responses for each species at this meeting.
76. The RAG noted that interactions in part reflect the productive oceanography of the east coast, where nutrient-rich eddies aggregate prey and predators, including turtles, seabirds and fishers, such that some level of interaction is an inherent feature of the fishery. Given that post-interaction survival is generally high (of the order of 60–70%, most pronounced for leatherbacks), the RAG considered that reducing encounters where practical, combined with good handling and release practices to maximise survivability, is the most realistic objective.

77. The RAG identified the following as necessary to progress this discussion:

- a. an understanding of which species are caught by which metier (fishing strategy), so that risk can be attributed to specific gear and strategy combinations rather than to individual gear factors in isolation. ABARES advised it intends to run metier-based models to identify the fishing strategies posing the highest risk for each species;
- b. direct engagement with industry, through a workshop or equivalent, on the practicality and effectiveness of existing and possible additional mitigation and management measures, since only industry members can advise what is genuinely feasible and effective on the water; and
- c. a common understanding of which scores are driven by uncertainty or precautionary default attributes (pointing to a research response) and which reflect genuine risk (pointing to a management response), noting the residual-risk process is the mechanism intended to refine the former as information improves.

78. On industry engagement, Tuna Australia advised that a wider industry workshop would be difficult to convene before late in the year given the geographic spread of operators and agreed instead to raise turtle interaction management at its September 2026 board meeting and, as part of that discussion, to determine whether broader industry input is needed and how it would best be obtained.

79. On timing, the RAG noted the ABARES analysis is unlikely to be completed for the September meeting and agreed to consider the ABARES analysis and other sources of information (as above) at the March 2027 meeting, allowing time for any industry engagement between September and March.

Action

ABARES to progress the analysis of factors influencing turtle interactions, including Metier-based models to identify the fishing strategies posing the highest risk to each high-risk species, and to place the results in the context of species conservation and population status, to inform the ERM strategy response to be brought to the RAG at the March 2027 meeting.

Tuna Australia to raise the management of marine turtle interactions at its September 2026 board meeting, including seeking the board's view on the effectiveness of current mitigation and further options to reduce interactions and improve post-capture survivability.

Agenda Item 13: Project Update – Close-Kin Mark-Recapture Design Study (Swordfish Stock Structure)

80. Dr Laura Tremblay-Boyer (CSIRO) presented an update on the FRDC-funded close-kin mark-recapture (CKMR) design study, which uses swordfish as the species of interest, but may be broadly applicable to other stocks.

81. The RAG noted a recap of CKMR methodology: kin relationships (parent-offspring pairs and half-sibling pairs) identified from DNA in tissue samples provide a statistical signal that can be used in a population model, with kins found in samples collected far apart indicating movement between locations. For swordfish, with an age at maturity of around five to six years, such signals are relevant over one to two generations and hence to management timescales.

82. The RAG noted the rationale for undertaking a design study before implementation, given the cost of sample collection, sequencing and modelling, and the importance of establishing the sample sizes required and anticipating modelling issues in advance. The RAG noted that, unlike previous applications where spatial structure emerged as a secondary benefit, this project makes the detection and estimation of connectivity a primary objective, addressing the central management question for swordfish, where tagging studies suggest sub-structure while genetic studies suggest little sub-structure, and where high connectivity across the broader South Pacific would make domestic management less effective.
83. CSIRO described the individual-based simulation model developed to date, which reproduces the age structure, maturity and fecundity of the stock assessment (currently tracking 25,000 individuals, to be scaled up) and tests movement scenarios (from 1% to 50% annual movement probability) against different sampling programs. Preliminary results indicate that strong stock structure is detectable even with low sample sizes over short programs, whereas intermediate connectivity (around 25% movement) requires larger sample sizes to resolve, and very high connectivity is (as expected) not detected as structure.
84. The RAG noted the proposed next steps: implementing a Markov-matrix estimation model to estimate movement rates; confirming that results scale from the simulated to the true population size; refining the representation of swordfish spatial structure beyond two regions; and testing the robustness of estimates to spatially biased sampling.
85. The RAG discussed the relationship between abundance and movement estimation, noting that the very high uncertainty in the current stock assessment means the CKMR study should not rely on assessment outputs as inputs; a key value of CKMR is the prospect of a better abundance estimate than the assessment provides.
86. The RAG noted ongoing engagement with potential sampling partners, including Taiwanese observers, SPC, the ISC working groups (which are planning their own swordfish and striped marlin CKMR sampling), the EU and French Polynesia.
87. The RAG requested that the design study determine the sample size that would be required if movement is at the Patterson et al. level, given that this is the primary scenario used in the swordfish MSE.

Agenda Item 10: ARC Research Priorities

88. AFMA presented the strategic research plan, with the status of recently completed and currently funded projects updated.
89. The RAG discussed the research priorities to be included on the ETBF and WTBF Annual Research Statement for 2027/28, together with an evaluation of their feasibility, priority and indicative cost. In general discussion, the RAG noted that a review of the ERA methodology no longer needs to be carried as a specific RAG research priority, as this is being progressed through ongoing discussions between AFMA and the ERA steering group, and reaffirmed its previous decision that a management strategy evaluation for striped marlin is not to be pursued at this stage, consistent with its focus on monitoring catch and discards.
90. The RAG (with non-conflicted members finalising the priorities) agreed the following:

- a. Improving growth estimates for billfish should remain on the list in recognition of its value, but with a note that it is not a priority the RAG is actively pushing forward;
 - b. Industry training and extension focused on species identification and on the mitigation, handling and release of turtles and broader bycatch, drawing together existing identification guides, handling videos and line-cutter provision into a package for industry, was agreed as an essential priority (indicatively of the order of \$50,000–\$150,000), given its value for maintaining and improving survivability and its relevance to the next ERA.
 - c. The Indian Ocean close kin/genetics work on yellowfin tuna should be retained on the list in recognition of its value but not actively pushed forward as a priority.
 - d. The FRDC-listed tissue-sample collection to support close-kin mark-recapture was agreed as essential for swordfish and a high priority for other species. The statement should specify that the focus of the work is to support the ETBF swordfish close-kin design study, while extending to the collection of tissue samples from other species where possible. The RAG emphasised the timing is imperative: Australia is currently absent from Pacific-wide sampling programs, and the design and protocols need to be ready so that sampling can commence promptly once the required sample size is known.
 - e. The black marlin close-kin study should be retained on the FRDC list but noted as a low priority for commercial fishery funding (ARC), with a recommendation that it be funded through recreational sources.
91. The RAG discussed the value of researchers presenting projects that use AFMA and industry data to the RAG, and of the RAG having the opportunity to view relevant draft publications before they are released. AFMA noted that its standard deeds of confidentiality already require AFMA approval of any publication or representation using the raw data, while acknowledging the practical difficulty of tracking all data uses. The RAG agreed that projects relating to the fishery should, where practicable, be presented to the RAG.

Action

AFMA to arrange for the lead investigators of the outstanding FRDC project 2022-173 (due for completion by the end of August 2026) to present the results to the RAG.

Agenda Item 11: TTRAG Priorities and Meeting Schedule

- 92. The RAG reviewed its priorities table and indicative meeting schedule.
- 93. The RAG noted that the review of the swordfish harvest strategy remains a priority pending completion of the draft revised harvest strategy, with the MSE component completed at this meeting.
- 94. The RAG agreed that the review of seabird management arrangements is complete and can be removed from the priority list, noting AFMA's intention to revisit the arrangements in three to five years unless required sooner, to allow the new arrangements to settle.
- 95. The RAG confirmed that the review of current and future data needs has been elevated to a key priority since the last meeting, reflecting discussions on quota-price reporting, logbook

discard fields and how electronic monitoring and logbook data are best used together. Noting this issue arises across multiple fisheries, the RAG agreed it would be valuable to raise the question at the research committee level.

96. The RAG discussed the preparation required for the March 2027 meeting, at which the results of the ABARES metier analysis and industry engagement (agenda item 9) would be brought back for the RAG to consider and provide advice, alongside the data-needs review.

Meeting schedule

97. The RAG discussed the timing of TTRAG 48. The RAG agreed to target 21–23 September 2026, with the final duration (up to three days) to be confirmed as the agenda develops. The RAG noted that the September meeting is ordinarily held online with the primary objective to provide TACC advice to AFMA.

Action

The Chair, Dr Ian Knuckey and AFMA (with input from ABARES) to scope the data-needs documentation, including Australia's RFMO reporting obligations, required for consideration at the March 2027 meeting.

Agenda Item 12: Other Business

98. There was no other business raised.

Close of meeting

99. The Chair thanked members and presenters for their contributions across the two days, acknowledging the substantial work undertaken overnight and out of session, and closed the meeting.

Attachments

Attachment A – TTRAG 47 adopted agenda, 21–22 July 2026

Attachment B – Register of interests

Attachment C – Summary of action items

Attachment A – TTRAG 47 adopted agenda, 21-22 July 2026.**21 July 2026, 9:00 am to 5:00 pm**

DAY 1		
30 mins 9:00 – 9:30	1. Preliminaries a. Welcome and apologies b. Declaration of interests c. Adoption of agenda d. Actions arising from previous meetings	Chair
45 mins 9:30 – 10:15	2. Member Updates	Members
15 mins 10:15 – 10:30	MORNING BREAK	
150 mins 10:30 – 1:00	3. Swordfish Harvest Strategy Review – MSE results and advice for harvest strategy	CSIRO
45 mins 1:00 – 1:45	LUNCH BREAK	
60 mins 1:45 – 2:45	4. ETBF and WTBF Fishery Indicators	CSIRO
30 mins 2:45 – 3:15	6. Project Update: Improving the management of wildlife interaction in pelagic longline fisheries	Tuna Australia
15 mins 3:15 – 3:30	AFTERNOON BREAK	
30 mins 3:30 – 4:00	5. Project Update: Factors influencing turtle interaction rates in the ETBF	ABARES
30 mins 4:00 – 4:30	7. Project Update: Leatherback Turtle Research	USC
30 mins 4:30 – 5:00	8. Project Update: Coral Sea Hook Trial	USC

22 July 2026, 9:00 am to 5:00 pm

DAY 2		
30 mins 9:00 – 9:30	Recap of Day 1 and Priorities for Day 2	
90 mins 9:30 – 11:00	9. Environmental Risk Management (ERM) Strategy for the ETBF and WTBF	AFMA
15 mins	MORNING BREAK	

11:00 – 11:15		
90 mins 11:15 – 12:45	9. (cont.) Environmental Risk Management (ERM) Strategy for the ETBF and WTBF	AFMA
45 mins 12:45 – 1:30	LUNCH BREAK	
30 mins 1:30 – 2:00	9. (cont.) Environmental Risk Management (ERM) Strategy for the ETBF and WTBF	AFMA
30 mins 2:00 – 2:30	13. Project Update: Close-Kin Mark-Recapture Design Study – Swordfish Stock Structure	CSIRO
60 mins 2:30 – 3:30	10. ARC Research Priorities	AFMA
15 mins 3:30 – 3:45	AFTERNOON BREAK	
45 mins 3:45 – 4:30	11. TTRAG Priorities and Meeting Schedule	AFMA
30 mins 4:30 – 5:00	12. Other Business	Chair

Attachment B – Register of declared interests, TTRAG 47, 21-22 July 2026

Name	RAG position/ organisation	Declared Interests	Potential conflicts identified at TTRAG 47 and how they were managed
Cathy Dichmont	Chair	Has a consulting company but has no pecuniary interests in the tuna fisheries. Is the current Commonwealth Research Advisory Committee (ComRAC) chair. Member of Western Pacific Council Science and Statistical Committee. USA side of the IOTC and WCPFC but centred on all Pacific fisheries, mining and TEPs.	Nothing declared
Ashley Williams	Scientific Member, CSIRO	Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the PI for the project on Data Management, Assessment and implementation of Harvest Strategy for Australia's Tropical Tuna and Billfish Fisheries.	Declared a potential conflict with agenda item 10 (research priorities) as a potential recipient of research funding. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Conor Clayton	Invited Participant, ABARES	Employee of ABARES, no pecuniary interests in Australian tropical tuna fisheries.	Declared a potential conflict with agenda item 10 (research priorities), noting ABARES does not usually seek this research funding but has done so in the past. The RAG agreed that research priorities would be finalised by non-conflicted members only.
David Ellis	Industry Invited Participant	Is currently the CEO of the industry association, Tuna Australia, which includes a salary paid by industry. Is the PI on FRDC Project 2020-041 (Improving the effectiveness, efficiency and safety of mitigation tools for protected species interactions in the ETBF) – completed; FRDC Project 2021-078 (Improving the management of wildlife interactions in pelagic longline fisheries) – ongoing; and FRDC Project 2021-063 (Future Proofing: Integrating community quota, product supply, product innovation and market diversification in Australia's Tropical Tuna Industry) – completed.	Declared a potential conflict with agenda items 3, 4, 6 and 9 as CEO of Tuna Australia and representative of the ETBF and WTBF fishing industry, and with agenda item 10 (research priorities) as a potential recipient of research funding. The RAG agreed that industry members could participate in the discussion and development of advice for all identified agenda items, with the final advice for agenda item 3 confirmed in a separate session of non-conflicted members, and that research priorities would be finalised by non-conflicted members only. Updated declaration noted at TTRAG 47: FRDC Projects 2020-041 and 2021-063 are now complete.

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Denham Parker	Invited Participant, Scientific, CSIRO	Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the Co-investigator for the Scientific advice for management of Tropical Tuna and Billfish Fisheries project.	Declared a potential conflict with agenda item 10 (research priorities) as a potential recipient of research funding. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Don Bromhead	Invited Participant, ABARES	Employee of ABARES, no pecuniary interests in Australian tropical tuna fisheries.	Declared a potential conflict with agenda item 10 (research priorities), noting ABARES does not usually seek this research funding but has done so in the past. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Elissa Mastroianni	Observer, AFMA	Employee of AFMA, which includes a salary. Senior Management Officer in the tropical tuna fisheries team. No pecuniary interest in tropical tuna fisheries.	Nothing declared
Gary Heilmann	Industry Member	Director of a processing company; no longer holds ETBF boat or quota SFRs.	Declared a potential conflict with agenda items 3, 4, 6 and 9 as an industry representative. The RAG agreed that industry members could participate in the discussion and development of advice for all identified agenda items, with the final advice for agenda item 3 confirmed in a separate session of non-conflicted members.
Ian Knuckey	Scientific Member	Has a consulting company with interests in electronic reporting in the tuna fisheries and is a member on several other AFMA Committees. Has previously worked on a project on FADs in Tasmania and work relating to the Commonwealth resource sharing framework. Director of Fishwell Pty Ltd (ABN: 49 674 230 669) and Director of Olrac Australia (Electronic logbooks). Serves as Chair of multiple AFMA Resource Assessment Groups including Northern Prawn Fishery, Tropical Rock Lobster, and Victorian Rock Lobster and Giant Crab Assessment Groups. Also serves as Scientific Member on various Management Advisory Committees including Northern Prawn, Gulf of St Vincent's Prawn Fishery, TTRAG, and SESSF Resource	Nothing declared

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		Assessment Group. Chair of Gulf of St Vincent's Prawn Fishery MAC Research Scientific Committee and Spencer Gulf & West Coast Prawn Association Inc. Economic Optimisation Sub-committee. Member of The Geelong Agri Collective. Current projects through Fishwell include AFMA contracts for Small Pelagic Fishery monitoring, Bass Strait Scallop Fishery surveys (2025-2028), Torres Strait Tropical Rock Lobster surveys and assessments (2025-2028), various state fishery projects including Queensland sea cucumber and spanner crab fisheries, Northern Territory sandfish surveys, Gulf of Carpentaria developmental fin fish trawl fishery, IMOS/SIMS FishSOOP Ocean Monitoring Program, and seafood industry consulting in South Australia and Victoria. Also involved in Traffic International Shark Product Traceability project.	
Josh Esman	Invited Participant, University of the Sunshine Coast	Employee of the University of the Sunshine Coast (USC), no pecuniary interest in Australian tropical tuna fisheries.	Declared a potential conflict with agenda item 10 (research priorities) as a University of the Sunshine Coast participant. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Julian Pepperell	Scientific Member	Independent fisheries research consultant and representative of the recreational fishing sector. Involved in projects including monitoring and research on pelagic fish landed at game fishing tournaments, analysis of gamefish tagging data, and assessing data collection methods relating to recreational catches of tropical tuna and billfishes.	Nothing declared
Kylie Scales	Invited Participant, University of the Sunshine Coast	Employee of the University of the Sunshine Coast (USC), no pecuniary interest in Australian tropical tuna fisheries.	Declared a potential conflict with agenda item 10 (research priorities) as a University of the Sunshine Coast participant. The RAG agreed that research priorities would be finalised by non-conflicted members only.

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Lara Ainley	AFMA Member	Employee of AFMA, which includes a salary. Manager of the tropical tuna fisheries. No pecuniary interest in tropical tuna fisheries.	Nothing declared
Laura Tremblay-Boyer	Invited Participant, CSIRO	Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Leads the FRDC-funded close-kin mark-recapture design study for swordfish. Attended for agenda item 13 (Close-Kin Mark-Recapture Design Study) only.	Nothing declared (attended for agenda item 13 only).
Lisa Walton	Invited Participant, University of the Sunshine Coast	Student at the University of the Sunshine Coast (USC) and works with Tuna Australia; no pecuniary interest in Australian tropical tuna fisheries.	Clarified at TTRAG 47 that she is a student (not an employee) of the University of the Sunshine Coast, and recorded as such. Declared a potential conflict with agenda item 10 (research priorities); the RAG agreed that research priorities would be finalised by non-conflicted members only.
Pavo Walker	Industry Member	Owner of several ETBF boat SFRs and holds a Coral Sea permit and minor line permit.	Declared a potential conflict with agenda items 3, 4, 6 and 9 as an industry representative. The RAG agreed that industry members could participate in the discussion and development of advice for all identified agenda items, with the final advice for agenda item 3 confirmed in a separate session of non-conflicted members.
Rich Hillary	Scientific Member, CSIRO	Employee of CSIRO, no pecuniary interest in Australian tropical tuna fisheries. Is the Co-investigator for the Scientific advice for management of Tropical Tuna and Billfish Fisheries project.	Declared a potential conflict with agenda item 10 (research priorities) as a potential recipient of research funding. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Richard Cottrell	Invited Participant, ABARES	Employee of ABARES, no pecuniary interests in Australian tropical tuna fisheries.	Declared a potential conflict with agenda item 10 (research priorities), noting ABARES does not usually seek this research funding but has done so in the past. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Robert Curtotti	Economics Member, ABARES	Employee of ABARES, involved in fisheries economic research related to the Eastern Tuna and Billfish	Declared a potential conflict with agenda item 10 (research priorities), noting ABARES does not usually seek this research funding but has done so in the

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		Fishery. Has no pecuniary interest in the Australian tropical tuna fisheries.	past. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Robert Wood	Executive Officer, AFMA	Employee of AFMA, which includes a salary. Senior Management Support Officer in the tropical tuna fisheries team. No pecuniary interest in tropical tuna fisheries.	Nothing declared
Selina Stoute	Observer, AFMA	Employee of AFMA, which includes a salary. Manager of the tropical tuna fisheries. No pecuniary interest in tropical tuna fisheries.	Nothing declared
Shayer Alam	Observer, AFMA	Employee of AFMA, which includes a salary. Senior Management Officer in the tropical tuna fisheries team. No pecuniary interest in tropical tuna fisheries.	Nothing declared
Stephanie Blake	Observer, ABARES	Employee of ABARES, involved in scientific research, analysis and stock status determinations for Commonwealth tuna fisheries. No pecuniary interests in any Commonwealth tuna fisheries.	Declared a potential conflict with agenda item 10 (research priorities), noting ABARES does not usually seek this research funding but has done so in the past. The RAG agreed that research priorities would be finalised by non-conflicted members only.
Terry Romaro, OAM	Industry Invited Participant	Director of a company that owns ETBF boat SFRs, minor line SFRs, ETBF longline SFRs, WTBF boat SFRs, WTBF longline SFRs, WSTF purse seine permit, SPF purse seine, mid-water trawl SFRs, and SPF quota SFRs. Shareholder of a company that owns shares in a proposal to fish with foreign longliners in the WTBF. Industry member on SBT and Tropical Tuna MAC, invited participant for TTRAG, and industry representative at the CCSBT and IOTC. Invited participant for SquidRAG and squid SFR holder, and a Director of Tuna Australia.	Declared a potential conflict with agenda items 3, 4, 6 and 9 as an industry representative. The RAG agreed that industry members could participate in the discussion and development of advice for all identified agenda items, with the final advice for agenda item 3 confirmed in a separate session of non-conflicted members.

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Attachment C - Summary of Actions and Recommendations

Table 1. TTRAG Action Items. Status and progress

Number	Action	Meeting Raised	Responsibility	Status at 30 June 2026
1.	AFMA to follow up again on the request to have depredation included in e-logs and check whether any information/data on this has come through.	TTRAG 41	AFMA	IN PROGRESS The depredation update has been included in the latest API release and sent to vendors for integration into the e-log software.
2.	A climate specialist in the CRF working group to present information on the model assumptions, drivers and factors used to determine the 'medium risk' outcome for swordfish.	TTRAG 44	AFMA	IN PROGRESS AFMA intends to invite Dr Beth Fulton to present at the September 2026 TTRAG meeting when Climate Risk Framework species assessment reports for the ETBF and WTBF will be scheduled for discussion. AFMA will request a presentation to provide further information on the preliminary projections and modelling underpinning the climate risk assessments for a range of Commonwealth species, including those in the ETBF and WTBF. Further information on these preliminary projections has also been published in the following reports: FRDC project 2016-059 - Guidance on adaption of Commonwealth Fisheries management to climate change FRDC project 2016-139 - Decadal scale projection of changes in Australian fisheries stocks under climate change

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Number	Action	Meeting Raised	Responsibility	Status at 30 June 2026
3.	AFMA to investigate potential discrepancies in the conversion rates used across processors, catch disposal records and by CSIRO. The fishery indicators review identified potential discrepancies in 2024 between conversion rates used for logbook estimates, catch disposal records, processors and stock assessments. This affects the accuracy of weight-based analyses.	TTRAG 44	AFMA	IN PROGRESS Tuna Australia has provided some additional information on the discrepancies to AFMA for further investigation.
4.	Regarding the annual economic indicators report, ABARES Economics Member to: - work with industry to exclude southern bluefin tuna from the ECI by separating the hooks and effort data from the fishery. - investigate the reported price data and proportion of trade allocated to domestic vs international markets to address industry concerns and improve accuracy and representativeness. - review labour cost modelling with the non-survey approach team to ensure recent wage increases and recruitment costs are properly captured.	TTRAG 45	ABARES	IN PROGRESS AFMA expects the 2026 annual economic indicators report to be provided at TTRAG 48 in September.
5.	AFMA to arrange an update from the AFMA EM program on artificial intelligence developments in EM footage review, to be presented at TTRAG 47.	TTRAG 46	AFMA	NOT YET ACTIONED AFMA's EM program has been focused on high priority modernisation of the EM program and transition to the standards-based approach.

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Number	Action	Meeting Raised	Responsibility	Status at 30 June 2026
6.	ABARES to progress the analysis of factors influencing turtle interactions, including Metier-based models to identify the fishing strategies posing the highest risk to each high-risk species, and to place the results in the context of species conservation and population status, to inform the ERM strategy response to be brought to the RAG at the March 2027 meeting.	TTRAG 47	ABARES	NEW
7.	Tuna Australia to raise the management of marine turtle interactions at its September 2026 board meeting, including seeking the board's view on the effectiveness of current mitigation and options to reduce interactions and improve post-capture survivability, and to determine whether broader industry input (for example a workshop or survey) is needed and how it would be obtained, to inform the ERM strategy response.	TTRAG 47	Tuna Australia	NEW
8.	AFMA to arrange for the lead investigators of FRDC Project 2022-173 (Assessing current data and alternate data collection methods relating to recreational catches of tropical tuna and billfishes), which is due for completion by the end of August 2026, to present the results to the RAG on completion.	TTRAG 47	AFMA	NEW
9.	The Chair, Dr Ian Knuckey and AFMA (with input from ABARES) to scope the documentation required for the RAG's key priority to review current and future data needs, including how electronic monitoring, logbook and (where	TTRAG 47	Chair / Dr Ian Knuckey / AFMA / ABARES	NEW

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Number	Action	Meeting Raised	Responsibility	Status at 30 June 2026
	present) observer data are best combined (responding to the ETP and logbook congruence analyses), and Australia's RFMO reporting obligations, for consideration at the March 2027 meeting.			

Table 2. TTRAG Action Items relating to CPUE.

Number	Action	Meeting Raised	Responsibility	Status at 30 June 2026
1.	TTRAG discuss and provide advice at its meeting in March 2024, on priority need to undertake simulation testing of the CPUE standardisation. The RAG identified the following four CPUE refinement priorities: Priority refinement (1-3), further discussion needed for priority 4 simulation testing of CPUE. 1. Continue the implementation of metiers approach. 2. Move from area-based approach to explicit spatial approach. 3. Improve inclusion of oceanography covariates e.g. Eddies. 4. Simulation test of the CPUE standardisation-To be discussed in March TTRAG during research gaps.	TTRAG 38	CSIRO/TTRAG	IN PROGRESS TTRAG 41 (July 2024) agreed that including oceanography co-variates remains a priority but confirmed that this work is paused while MSE testing of the swordfish harvest strategy is underway.
2.	Tuna Australia and CSIRO to investigate potential erroneous logbook reporting regarding 45 hooks	TTRAG 38	CSIRO/AFMA/ Tuna Australia	IN PROGRESS

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Number	Action	Meeting Raised	Responsibility	Status at 30 June 2026
	between floats. Tuna Australia to follow up with operator if error is identified.			Tuna Australia contacted all ETBF operators regarding 45 hooks per basket. However, has not received any responses to the query. AFMA will investigate further to identify specific operators reporting 45 hooks between floats. AFMA confirms no amendments to logbooks have yet been made.

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