

Research priorities for potential AFMA funding in 2027/28

The AFMA Research Committee (ARC) is calling for full proposals for the following priorities, for potential funding in 2027/28.

Key information for applicants when completing and submitting full proposals

When completing and submitting full proposals, applicants **should**:

- **use** the 2027/28 research priority scopes outlined below as a guide when developing their full proposals to meet the identified need for the project;
- **use** the AFMA research application form (attached) to prepare their full proposals;
- **include** in their full proposals:
 - the projected costs and expected funding source, as well as alternatives; and
 - the proposed contractor's full legal identity/description, including each corporation's full description and Australian Company Number or the full names of all partners/joint venturers. A trading name and/or Australian Business Number should also be notified, but only if registered to the parties described.
- **email** their completed full proposals to the AFMA Research Secretary at research.secretary@afma.gov.au by **1 November 2026**.

Summary of Scopes

Fishery	Research Priority Scope
NPF	Advancing Sustainability in the Northern Prawn Fishery (2028–2031)
NPF	Integrated fishery-independent data for the Northern Prawn Fishery assessment
NPF	Integrating long-term catch trend analysis of bycatch species into ecosystem-based sustainability of the Northern Prawn Fishery: 2026–2029
SBT	SBT Inter-session science 2027/28–2029/30
SESSF	Calibration of the Modular Acoustic Optical Survey (M-AOS) unit for future orange roughy surveys
SESSF	Review of Tier 1 assessments of SESSF stocks
SPF	Redbait West Daily Egg Production Method (DEPM) survey

PRIORITY SCOPES

Project Title	Advancing Sustainability in the Northern Prawn Fishery (2028 – 2031)
Project Need	Penaeid prawns are highly sensitive to environmental fluctuations. Complex environmental processes drive recruitment dynamics and research has shown that tides, currents and river flow affect annual recruitment strength, although the magnitude and nature of these effects vary by species. Uncertainty in these relationships, combined with increasing environmental variability, makes their direct integration into fisheries management frameworks challenging. The Northern Prawn Fishery (NPF) targets several prawn species and is managed through an integrated, multispecies Harvest Strategy. A suite of models is applied to assess the status of individual component fisheries against established Commonwealth reference points. Together, these assessments inform the Harvest Strategy, with the overarching objectives of ecological sustainability and economic performance. Management outcomes include advice on appropriate effort and catch levels, typically expressed as annual Total Allowable Effort (TAE). In the case of the White Banana Prawn fishery, where the stock-recruit relationship is strongly influence by seasonal rainfall, catch rate trigger levels are used instead. Ongoing research is required to strengthen and advance these multispecies assessments, with a particular focus on incorporating environmental drivers, to support effective management of the fishery. In this context, leading environmental modelling research completed in mid-2026¹ identifying key environmental variables driving tiger prawn population dynamics. Given the significant influence of environmental drivers on prawn stocks, integrating these findings into the stock assessment and management processes is a key priority for the NPF.

¹ 'Methods to account for climate impacts in fisheries models and management: Case study example of environmental contributors that affect Tiger Prawn population dynamics.'

This work built on the initial modelling work, looking at the impacts of potential water development on key Commonwealth and State commercial species, including banana prawns - [FRDC 2018-079](#).

Desired Outcomes	This ongoing research directly informs management outcomes in the NPF, particularly in the setting of sustainable tiger prawn effort while maximising economic returns. More broadly, it is fundamental to fully realising the value of Australia's prawn resources under increasing climate variability by advancing science-based, adaptive multispecies management that sustains industry productivity while maintaining ecological resilience. The key project objectives include: • Provide a full assessment of the tiger prawn fishery for 2028 and 2030 (using data up to 2027 and 2029, respectively). • Provide an update of the fishery catch, effort and survey index of the tiger prawn fishery for 2029 (based on 2028 data). • Update the fishing power series in assessment years, that incorporates data from gear surveys conducted annually (for both the tiger prawn fishery and the Redleg banana prawn fishery). • Estimate Maximum Economic Yield (MEY)-based TAE for the tiger prawn fishery for: ○ 2028 plus 2029 (based on the 2028 assessment), and ○ 2030 plus 2031 (based on the 2030 assessment). • Assess stock status of the Redleg Banana Prawn fishery (and if relevant key environmental factors) and provide a TAE for Redleg Banana Prawns in each of 2028, 2029 and 2030. • Support the annual estimation of MEY-catch rate triggers for the White Banana Prawn fishery. This will be undertaken each year (i.e. 2028, 2029 and 2030). • In collaboration with Northern Prawn Resource Assessment Group (NPRAG), AFMA and the Northern Prawn Fishery Industry Association (NPFI), incorporate key environmental indicators from environmental modelling research¹ into the relevant assessments and the NPF Harvest Strategy. The project will span up to three years as part of a multi-year contract.
Comments	Applicants should be aware that the AFMA Commission has sought urgent advice from NPRAG and NORMAC on the contemporary suitability of the

	stock assessment model and supporting research that informs the model, which may result in changes to research needs. Project applications submitted for this scope must include a breakdown of costings for each individual component of the project (i.e. each individual stock assessment).
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Project Title	Integrated fishery-independent data for multispecies Northern Prawn Assessments and Ecosystem Modelling: [2028 to 2031]
Project Need	The outputs of the integrated fishery independent data program are a critical input into the biennial Northern Prawn Fishery (NPF) bio-economic multi-species stock assessment model which recommends annual effort levels (i.e. gear Statutory Fishing Right (SFR) values and season length) in the tiger and endeavour prawn fisheries. The NPF is managed through an integrated, multispecies Harvest Strategy with the overarching objectives of ecological sustainability and economic performance. Fishery independent information is vital in the co-management of the NPF to ensure the sustainability of target and bycatch species, and multi-jurisdictional tropical ecosystem resilience, thus enabling AFMA to achieve its legislative objectives (ensuring sustainability of target species) and the Commonwealth Harvest Strategy Policy (targeting maximum economic yield and avoiding stock depletion to levels posing a risk to stock). In addition, the Gulf of Carpentaria (GoC) wide and regional prawn and Endangered, Threatened and Protected (ETP) species abundance indices, along with spatial patterns of abundance for target species provided by the fishery-independent data are used to support broader provision of ecosystem service research (e.g. understanding impacts of potential water resource development on downstream estuarine and coastal communities). Over the decades, collaboration with universities and research institutes has provided the opportunity to collect data on abiotic (micro-plastics) and biotic (prawn viruses, eDNA and mud crabs) from remote, difficult-to-access and data-deficient tropical Australia.
Desired Outcomes	The fishery independent data are essential ongoing research supporting the management of harvested crustacean species and bycatch impacted by fishing in the NPF. The data provide both indices of abundance and size distribution data for two tiger and two endeavour prawn species, as well as ETP and other bycatch, since 2002 (critical stock assessment and Ecosystem Based Management inputs). Sustaining the productivity of Australia's

	tropical prawn resources given persistent climate impairment, via adaptive multispecies management, aims to balance critical ecological function. Undertake [four] fishery-independent trawl surveys in the GoC, including annual ‘recruitment’ surveys² in January/February [2028, 2029 and 2030] and biennial ‘spawning’ surveys in July³ [2029], with data used to determine and evaluate: • Fishery-independent parameters on the status of eight commercial prawn populations, their abundance indices and size distributions for key time windows in the life history of key species. • The spatial extent, annual variability, and indicators of prawn population reproductive potential and recruitment strength; and • The spatial extent and long-term abundance of byproduct (bugs, squid and cuttlefish) and data-poor, cryptic and remote/inaccessible iconic bycatch (sawfish, hammerhead sharks, seasnakes, syngnathids, turtles and rare fish) species at risk. The project will span up to three years as part of a multi-year contract.
Comments	Applicants should be aware that the AFMA Commission has sought urgent advice from NPRAG and NORMAC on the contemporary suitability of the stock assessment model and supporting research that informs the model, which may result in changes to research needs. Any project applications submitted under this scope must include a breakdown of costings for each individual component of the project (i.e. each spawning/recruitment monitoring survey).
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² ‘Recruitment’ surveys include 310 trawl sites.

³ ‘Spawning’ surveys include 210 trawl sites.

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Project Title	Integrating long-term catch trend analysis of bycatch species into ecosystem-based sustainability of the Northern Prawn Fishery: 2026 – 2029
Project Need	AFMA is required to ensure that the exploitation of fisheries resources and any related activities are conducted in a manner consistent with the principles of ecologically sustainable development. A critical part of demonstrating ecological sustainability in the Northern Prawn Fishery (NPF) is measuring and reducing the impacts of trawling on the marine environment. This project will use data from the scientific and crew member observer (CMO)⁴ programs and electronic monitoring (EM) systems to assess the undertake a sustainability assessment (including catch trend analysis) of Endangered, Threatened and Protected (ETP) and 'at risk' bycatch species⁵. This project is a key contribution to AFMA's ability to meet its sustainability objectives (e.g. identify risks and make decisions to reduce those risks where required) including the <i>Environment Protection and Biodiversity Conservation Act 1999</i>, Wildlife Trade Operation and Marine Stewardship Council requirements for the fishery to remain export compliant.
Desired Outcomes	This ongoing project plays a key role in monitoring the ongoing sustainability of the NPF by providing managers with scientific advice on all TEP and 'at risk' bycatch species interacted with by NPF trawling. To ensure data is available for use in assessments, the data collected from the CMO program needs to be analysed annually. • Attend the [2027, 2028 and 2029] annual CMO workshops and train observers in TEP and 'at risk' bycatch species identification and quality catch data recording.

⁴ The CMO Program collects data on top of what is collected through the Scientific Observer Program on ETP and high-risk species in the Ecological Risk Assessment (ERA). This data contributes to the coverage of observer data for the NPF, which is part of the long-term monitoring program for the NPF.

⁵ Every few years the SAFE analysis for the NPF is revised and updated. It is essential to assess if the NPF is interacting with high-risk species (determined through SAFE analysis) and if any management responses are required to reduce the interaction with such species.

	• Process all digital data collected by the CMO, AFMA scientific observers (SO), EM and integrated monitoring programs (IMP) in [2026, 2027 and 2028] and report on data collected via annual milestone reports. • Undertake annual catch trends analysis of CMO, SO, EM and IMP data collected over the [2026-28] banana and tiger prawn seasons, including an evaluation of the performance of the CMO, SO and IMP programs over the previous year. Deliver annual sustainability assessment reports for the ETP and 'at risk' bycatch species impacted by the NPF in Nov 2027, Nov 2028 and Nov 2029.
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Project Title	Southern Bluefin Tuna (SBT) Inter-sessional science 2027/28–2029/30
Project Need	This is essential work that provides ongoing scientific advice to the SBTMAC and AFMA to support the adequate monitoring, implementation and success of management arrangements in the SBT Fishery.
Desired Outcomes	Provide scientific advice and support to AFMA and SBTMAC and participate in the relevant domestic and international meetings. Participate in Commission for the Conservation of SBT (CCSBT) Extended Scientific Committee and Operating Model and Management Procedure meetings and inter-sessional webinars. Provide technical expertise for the three year work program, which covers: 1) model checks (2027/28) and running the MP in 2028/29 to set the next Total Allowable Catch (TAC) block (2030–2032), 2) conducting the MP performance review 2027, and 3) preliminary model updates and undertaking a full stock assessment in 2029/30. Each year provide data to the CCSBT’s annual scientific data exchange, review meta-rules consideration of exceptional circumstances and TAC advice, and contribute to the review and prioritisation of elements of the CCSBT Scientific Research Program. Undertake the routine otolith archiving, ageing and develop age-length keys for the Australian SBT surface fishery. Age 100 SBT from the Australian surface fishery each season, and provide direct age estimates to CCSBT via the data exchange process.
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Project Title	Calibration of the M-Acoustic Optical System (AOS) unit for future Orange Roughy surveys
Project Need	The AOS unit used in the 2024 Eastern Zone Orange Roughy survey is now 15 years old and has reached the end of its effective service life. CSIRO recently constructed a new M-AOS unit but this device requires calibration prior to its use in the 2028 acoustic survey. This calibration is most efficiently achieved if the unit is deployed from a New Zealand factory freezer trawler and the next available opportunity is likely to be the winter of 2026.
Desired Outcomes	Calibration of the new M-AOS unit such that the survey results from this device are comparable with those from the “old” unit used in previous surveys.
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Project Title	Review of Tier 1 assessments of Southern and Eastern Scalefish and Shark Fishery (SESSF) stocks
Project Need	Tier 1 assessments of SESSF stocks should undergo routine independent review to ensure that they are as robust as possible. Ideally, this review should occur in the year prior to the next assessment of that stock.
Desired Outcomes	Review of the input parameters, catch and Catch per Unit of Effort/biomass time series, model structure and assumptions of Tier 1 assessments as nominated by the RAGs. The review of each assessment will be a separate research call, but proponents can elect to review more than one assessment.
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Project Title	Redbait West Daily Egg Production Method (DEPM) survey
Project Need	The last DEPM survey for the Redbait west stock was undertaken in 2017–18 which informed the Tier 1 (12% Exploitation Rate - ER) RBC for this stock commencing in the 2019–20 SPF season. The RBC for this stock then dropped to Tier 2 (6% ER) for the 2024–25 season onwards and will drop again to Tier 3 (3% ER) unless a DEPM survey is conducted prior to the 2029–30 season. The proposed research will support the application of the DEPM to estimate the spawning biomass of Redbait (<i>Emmelichthys nitidus</i>) in the western sub-area of the Small Pelagic Fishery (SPF). DEPM-derived spawning biomass estimates are the primary biological indicator used to determine Recommended Biological Catches (RBCs) and Total Allowable Catches (TACs) under the SPF Harvest Strategy. To inform RBC and TAC settings by December 2028, field surveys must be undertaken during the October 2027 spawning season. The research will involve: • Conducting a targeted plankton survey to quantify egg abundance across the full Redbait West spawning area. • Undertaking concurrent trawl surveys to collect adult Redbait samples required for estimating reproductive parameters. • Surveying potential spawning distribution in waters between the Victorian/South Australian border and the South Australian/Western Australia border, encompassing continental shelf and upper continental slope waters. • Generating a robust estimate of spawning biomass using DEPM outputs and associated biological data.
Desired Outcomes	DEPM surveys provide biomass estimates which directly inform the management of the Redbait west stock.

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