MEAT & LIVESTOCK AUSTRALIA

Terms of reference

Animal Wellbeing & Biosecurity Investment Call

Buffalo Fly Investment Call 2026-2030

Summary

The Australian red meat industry, encompassing cattle, sheep and goat, generated $77.1 billion in turnover and $14.3 billion in exports in 2023–2024, supporting over 460,000 jobs nationwide. The long-term productivity, welfare, and resilience of this industry are increasingly challenged by endemic pests, of which buffalo fly represents the most economically significant.

Buffalo fly (*Haematobia exigua*) is now the leading cause of economic loss in the Australian beef industry, with estimated annual impacts exceeding $170 million through reduced productivity, treatment costs, labour, and associated market impacts. Despite decades of research and management effort, control remains inconsistent, increasingly ineffective, and heavily reliant on a narrowing set of chemical tools.

This Terms of Reference (TOR) seeks to **drive a step-change in buffalo fly management** through coordinated, measurable and scalable RD&A investments that deliver integrated, sustainable and economically viable solutions for producers.

Purpose and Background

Buffalo fly presents a complex, system-level challenge that cannot be addressed through single interventions or incremental improvements to existing approaches. The recently completed gap analysis and technical review identified that the industry is currently constrained by a combination of biological, technological and behavioural factors.

At a biological level, gaps remain in understanding of buffalo fly ecology, resistance mechanisms, and changing distribution patterns, particularly in the context of climate variability and range expansion. At a technological level, the industry lacks effective monitoring tools, automated treatment systems, and validated alternatives to chemical control. At a system level, there is an over-reliance on a limited number of pesticidal actives, with emerging resistance and no clear replacement pipeline.

Critically, the review also identified that many current practices are either poorly aligned to production systems or lack a strong evidence base, and that producers often operate with limited access to reliable, region-specific advice. At the same time, there is strong willingness within industry to adopt improved approaches, provided they are practical, economically justified, and supported by credible evidence.

The Gap analysis concluded that there is no single "silver bullet" solution, and that meaningful progress will require integrated, multi-component management systems supported by coordinated RD&A investment across short-, medium- and long-term timeframes. This TOR is designed to translate these findings into a targeted investment call that delivers measurable impact at the enterprise and industry level.

Expected outcome

The outcome of this initiative is a **measurable and sustained reduction in the impact of buffalo fly on productivity, animal welfare and enterprise profitability**, achieved through the development and adoption of integrated management systems. This includes improved effectiveness and longevity of control strategies, reduced reliance on ineffective or unsustainable practices, increased confidence in decision-making, and strengthened system resilience to emerging challenges such as resistance and climate-driven spread.

Definition of Impact (Mandatory Requirement)

All proposals must clearly define and quantify the impact they intend to deliver. This includes demonstrating how their work will reduce buffalo fly burden, improve productivity or welfare outcomes, or reduce the cost and inefficiency of current management approaches. Proposals must articulate how these outcomes will be measured, including baseline conditions, expected change, and the timeframe over which impact will be realised. Where relevant, this should include economic metrics at the enterprise level, such as cost per head, return on investment, or avoided loss. Proposals that do not clearly define measurable and attributable impact will not be considered competitive.

Scope

MLA is calling for MDC-funded projects that design, develop and evaluate solutions addressing the priority RD&A investment areas identified in the Gap analysis. The scope of this call spans the full buffalo fly management system, including pest biology, monitoring, treatment, enabling technologies, and knowledge transfer. Proposals may focus on one or more priority areas but must demonstrate how their work contributes to an integrated management approach and delivers practical value to producers. This initiative recognises the need to balance near-term impact with longer-term innovation. Accordingly, proposals should clearly articulate their expected contribution across relevant time horizons, and how they align with broader industry needs.

Priority Investment Areas

The following priority areas represent the highest-leverage domains for RD&A investment.

1. Ecology, Distribution and Resistance Management (*Category 3)

Proposals in this area should improve understanding of buffalo fly biology, lifecycle dynamics, resistance mechanisms and geographic spread, with a focus on generating actionable insights that inform management decisions. This includes work to quantify resistance patterns, understand climate-driven expansion, and develop regionally relevant management frameworks.

2. Monitoring, Measurement and Decision Support Tools (*Category 2)

Proposals should address the current lack of objective, reliable and practical monitoring systems. This includes the development of technologies or methods that enable accurate fly counting, threshold-based decision-making, and early warning systems that support proactive rather than reactive management.

3. Enabling Technologies and Automated Systems (*Category 2)

This area focuses on the development of technologies that improve the practicality and timeliness of intervention, particularly in extensive systems where labour and infrastructure constraints limit effective control. This includes automated treatment systems, remote monitoring platforms, and integration of digital tools into farm operations.

4. Innovation in Products and Control Strategies (*Category 1)

Proposals should explore new or improved control options, including novel chemistries, alternative delivery mechanisms, biological control agents, genetic approaches, and repellents. Given the constraints on new pesticide development, emphasis should be placed on innovation in application, integration, and system compatibility.

5. Knowledge Transfer, Adoption and Integrated Management (*Category 3)

Proposals in this area should focus on translating research into practice through the development of integrated management systems, regionally relevant guidelines, and effective extension approaches. This includes improving understanding of thresholds, resistance management, and the practical implementation of integrated pest management strategies.

Integration Requirement

Proposals must demonstrate how their work contributes to an integrated buffalo fly management system. Standalone solutions that do not clearly link to broader management approaches or fail to consider system interactions will not be considered competitive.

Adoption and Economic Relevance

Proposals must demonstrate a clear understanding of producer decision-making and constraints, including cost, labour, practicality and risk. Solutions must be economically viable and aligned with real-world production systems. Proposals should clearly articulate the value proposition to producers, including how and why the proposed solution will be adopted.

Monitoring and Evaluation

All projects **that deliver attributable adoption and impact (category 1)** must include a robust monitoring, evaluation and reporting (MER) framework that captures not only outputs, but outcomes and impact. Impacts should demonstrate producer engagement, practice change and benefit to production businesses and the broader industry. This includes baseline measurement, clear success metrics, and where feasible, approaches to attribute observed changes to the project interventions. The MER plan will be a requirement of Milestone 1 if the project is successful, applicants should ensure adequate budget allocation for MER activities. The MLA Triple Bottom Line Evaluation Framework and guidelines are available on the MLA's website and must be used for the above MER, should your application be successful.

Project duration and timing

Projects are expected to run for up to 48 months. Proposals should demonstrate a clear pathway from early outputs through to measurable outcomes and longer-term impact, recognising that different investment areas will operate on different time horizons.

***Project categories please refer** *page 12 here**

Resources Required

Proposals must include full details of the resources required to deliver the project, including personnel, expertise, infrastructure and an indicative total budget and high-level proposed milestones. Co-investment and collaboration are strongly encouraged.

Important information and selection criteria

Proposals will be assessed on their ability to deliver measurable impact on buffalo fly management and industry outcomes, their alignment with the identified priority investment areas, and their contribution to an integrated and scalable management approach. Additional consideration will be given to proposals that demonstrate strong economic relevance, credible pathways to adoption, integration with existing RD&A and industry systems, and the capability to deliver outcomes at scale.

The successful project will be funded by the MLA Donor Company (MDC) funding model. The successful applicant will be required to enter into an umbrella research agreement with MLA, as outlined in the request for tender documentation.

Deadline for submissions

Preliminary proposals must be received by ***MLA before 11.59pm (NSW time) Monday 22 June 2026 and must not be more than 8 pages in length.*** **Demonstration of team capability may be added as an appendix. Late proposals will not be accepted.**

Applicants should review MLA's Project application guidelines and forms web page and the MLA Project Funding Application Guidelines before completing their preliminary project application.

Use the preliminary proposal template to submit proposals electronically to MLA at: projectcall@mla.com.au and cc mlaurence@mla.com.au

Preliminary Proposals will be acknowledged and recorded on the MLA project information system.

Applicants will be advised in writing if they will be invited to submit a full detailed funding application for consideration by 14 July 2026. Applicants which are not successful will be advised in writing by 14 July 2026.

Further Information

If you have questions about these terms of reference, contact:

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